ILLINOIS MEDICAL JOURNAL

THE OFFICIAL ORGAN OF

THE ILLINOIS STATE MEDICAL SOCIETY

VOL. LVIII. OAK PARK, ILL., DECEMBER, 1930 No. 6

ILLINOIS MEDICAL JOURNAL

Published monthly by the Illinois State Medical Society under the direction of the Publication Committee of the Council.

GENERAL OFFICERS, 1930-1931

PRESIDENT.....WM. D. CHAPMAN, Silvis
PRESIDENT-ELECT.....R. R. FERGUSON, Chicago
FIRST VICE-PRESIDENT.....B. G. WILCOX, Joliet
SECOND VICE-PRESIDENT.....OTTO HUBER, Chicago
TREASURER.....A. J. MARKLEY, Belvidere
SECRETARY.....HAROLD M. CAMP, Monmouth

THE COUNCIL

E. H. Weld,	1st District, Rockford	1932
E. E. Perisho,	2nd District, Streator	1932
F. R. Morton,	3rd District, Chicago	1932
J. S. Nagel,	3rd District, Chicago	1931
Thomas P. Foley,	3rd District Chicago	1933
E. P. Coleman,	4th District, Canton	1931
S. E. Munson,	5th District, Springfield	1931
Chas. D. Center,	6th District, Quincy	1933
I. H. Neece,	7th District, Decatur	1931
Cleaves Bennett,	8th District, Champaign	1932
J. W. Hamilton,	9th District, Mt. Vernon	1933
J. S. Templeton,	10th District, Pinckneyville	1933

EDITOR

CHARLES J. WHALEN.....25 E. Washington St., Chicago

GENERAL COUNSEL

FRANCIS X. BUSCH.....231 S. La Salle St., Chicago

PERMANENT HISTORIAN

IRVING S. CUTTER.....301 East Chicago Ave., Chicago

MEDICO-LEGAL COMMITTEE

J. R. BALLINGER, *Chairman*.....2724 W. North Ave., Chicago
GEORGE H. WEBER, *Secretary*.....Peoria

EDUCATION COMMITTEE

MISS JEAN MCARTHUR, *Secretary*..185 N. Wabash Ave., Chicago

SCIENTIFIC SERVICE COMMITTEE

JAMES H. HUTTON, *Chairman*..6056 Cottage Grove Ave., Chicago
HAROLD M. CAMP, *Secretary*.....Monmouth

PUBLICATION COMMITTEE

J. W. VAN DERSLICE, *Secretary*.155 N. Ridgeland Ave., Oak Park

Outside of editorial or allied views or statements that are the authoritative actions of the Illinois State Medical Society, the organization denies responsibility for opinions and statements published in the ILLINOIS MEDICAL JOURNAL. Views expressed by the various authors and views set forth in various departments in the Journal represent the views of the writers.

State Society will pay no bills for legal services except those contracted by the Committee. Notify the Chairman at once. Do not employ attorneys.

Send original articles, advertising copy, cuts and all communications relating to advertising to Dr. Charles J. Whalen, c/o Illinois Medical Journal, 185 N. Wabash Ave., Chicago.

Membership correspondence to Dr. Harold M. Camp, Monmouth, Ill.

Society proceedings and news items and changes in the mailing list to Dr. Henry G. Ohls, Managing Editor, 1618 Juneway Terrace, Chicago.

Contributors will submit all copy for publication typewritten on standard size paper and double spaced. Copy not complying with this rule will be returned, if convenient.

Subscription price of this Journal to persons not members of the Illinois State Medical Society is $3.00 per year, in advance, postage prepaid, for the United States, Cuba, Porto Rico, Philippine Islands, Hawaiian Islands and Mexico. $3.50 per year for all foreign countries included in the postal union. Canada, $3.25. Single current copies, 50 cents.

Editorials

GILBERT K. CHESTERTON DISCUSSES STATE MEDICINE—ENGLISH SATIRIST AND POLITICAL ECONOMIST REMARKS PANEL SYSTEM IS FATAL

In an exclusive interview with a representative of the ILLINOIS MEDICAL JOURNAL Mr. Chesterton comments upon banality of the English panel system.

Gilbert K. Chesterton, famous smile, dangling eyeglass ribbon and Bond street tailoring, was waiting in the lounge of the Seneca Hotel, Chicago, for an especial representative of the ILLINOIS MEDICAL JOURNAL.

The famous philosopher, economist and satirist stands well over six feet in height, weighs quite in proportion and has a pair of big blue eyes that can be bland as a child's or fierce as Viking warrior's.

"Ah, yes," Mr. Chesterton commented as he lighted a fresh cigar, "you were speaking of the panel system and of state medicine?

"*The panel system is fatal.* It is a fatal system. By it the country is divided into classes of masters and slaves. It is further a direct attack against the liberty of the poor, and though it is an attack in a conservative garb it is none the less a menace.

"The panel system of medical practice or its allied systems *is merely the delegation of the practice of medicine to a group of people in buttons.* I am against people in buttons interfering with the rights of any man. *The theory of the rational modern state is against bureaucracy. The dole is a tragic thing.* So is any measure that metes out a perpetual interference with individual rights, and the free contacts of a citizenry. Which is exactly what the panel system of medicine does. It removes from a class of people the right to make free contacts for individual necessities.

"It is an evil thing when you class and codify and put into a system of law a recognition of employers and employes as variant classes to be so shown under any constitution. *It is an evil thing to deprive the poor of the privilege of choice and to make of the people a sort of serfdom.*"

"The world," remarked Mr. Chesterton, "is in danger right now of getting up in an intellectual tree through the utterance of far too many platitudes. And don't forget that in England there is a most entirely different meaning taken from the word "Socialist" than that which maintains here. With us over there a socialist is apt to mean a vaguely humane person. Here in America it inclines more towards the violent "red."

"Prohibition," continued Mr. Chesterton, "is an onslaught against private morality and as such is a menace to good government. But the world is not on its way to destruction. Already the pendulum has begun to swing back. The pornographers even are getting tired. In art and literature they have almost exhausted the possibilities of the exploitation of sex. Amusing reform movements are the paradoxical but natural companions of an eager plunge into so-called secret, evil things. But it is interesting to note the other side of the question. There is a search and a seeking for religion manifesting itself all over the world. Even the British newspapers find nothing of more interest to print in their columns than stories of religion and of religious experiences. The world is a right world but like all that is of mortal concomitance is destined to trial, struggle and tribulation."

Which, of course, means that "persons in buttons" cannot have been without their uses if only to awaken the medical profession to the necessity for remembrance that

"Eternal vigilance is the price of liberty."

WE ARE EDUCATING SPECIALISTS, AND NOT DOCTORS. THE PUBLIC NEEDS MANY DOCTORS AND ONLY A FEW SPECIALISTS

The trend of modern medical education has left its mark upon the younger generation of doctors, in that these younger men forget that the routine of life lies in small things. More than seventy-five per cent. of human ailments are to be classed accurately as temporary trivialities. Now these younger doctors, for the most part, have ambitious eyes fixed upon the great moments of medicine with almost complete disregard of the everlasting minorities. Intent upon hopes of the critical laparotomy, or other serious surgical operation, idealistic young physicians are prone to neglect the every day need of the ailing public. And right here is the loophole through which the bogus practitioner creeps to find the foothold by which he sometimes dislodges and supersedes the skilled man. We are educating specialists, and not doctors. The public needs many doctors and only a few specialists.

Out of the inattention of scientific men for ordinary wants of an indisposed people, spring and flourish the mass of cults and of mock medical systems that insidiously deprives the sick of the available expert medical attention. In other words, it is the seeming indifference of physicians towards the annoying ailments of prevalence and frequency that forces the people to seek care and a sympathetic ear from the pseudists.

Powerful appeal of the false healers is the seeming shrewd fashion in which these dispensers of bunk appear to take the patients into the full confidence of their supposedly wonderful systems. The subtlety of this suggestion to personal vanity is incalculable.

MEDICINE IS THE MOST DESTRUCTIVE OF PROFESSIONS. WORKING ON ITS ELEMENTAL DOCTRINE OF PROPHYLAXIS IT LABORS TO ITS UNDOING

The general public is hungry for news of the functions of the ever troublesome body and the simple way in which it may be cared for. Proof of this is found in the tremendous amount of "medical answers" carried in every daily periodical in the country. Medicine is the most destructive of professions. Working on its elemental doctrine of prophylaxis it labors to its undoing, but there is much yet to be done before the race will have reached the millennium of physical perfection. MUCH MUST BE DONE at once to restrict the outrages perpetrated by the pseudo-medical-incompetents, or centuries of medical research and professional devotion will go for naught.

The doctor as an individual is caught between two fires. In addition to the work of the buncomedics, the increasing knowledge of specifics for standardized diseases has brought into play a vast possibility for self-medication, that an egotistic public has availed itself of with much avidity. The fine point of diagnosis is too often overlooked. One of the crimes against it is the maudlin cry of the chiropractic that any ailment under the sun can be diagnosed from a wiggle of the spine. If the claim were for any ailment under the sod, there would be no argument, but not until the death rate shows an alarming increase will the public awake, and that too late.

Hampered by laws that make it impossible for a physician to prescribe certain drugs when and how he wishes, but only as a few non-medical lawmakers think he should, the doctor is still doing his best. Would the Harrison Narcotic law, the inhibitions of Volstead Act and a dozen other insanities be on the statute books of the country today if the public and the physicians, too, had been aware of what was meant? Every doctor in the United States has had ample opportunity to feel the whip of fiat-medical practice.

Dr. George E. Vincent, an able educator, has said "In democratic countries like the United States, Great Britain, and Canada and Switzerland, the popular estimate of the social value of science, the general esteem in which scientific men are held, the willingness of legislative bodies and of private citizens to supply funds, and the readiness of leaders and people to accept and apply the results of scientific research are determining factors in the progress of knowledge. Unless the leaders of opinion and a substantial proportion of the adult population appreciate the aims and methods of science, understand something of the value of evidence, are familiar with reasoning processes, and are prepared to recognize the authority of disinterested experts, science can not attain the place it deserves, or render the service of which it is capable. Chemical, electrical and mechanical engineers have won distinction and recognition because their work is tangible and convincing both to the trained leader and to the man in the street. The medical scientist, with vastly more complex problems to solve, must ask for the support of a much more intelligent imagination and sympathetic form of public opinion."

It is the creation and support of such a public opinion that is the aim of the lay educational campaign of the Illinois State Medical Society.

DR. IRVING S. CUTTER IN A REVIEW OF HIGHER MEDICAL EDUCATION IN AMERICA

In an exceptionally well edited book on "Higher Education in America," compiled by Raymond Kent, the chapter on "The School of Medicine" by Irving S. Cutter, dean of the medical school of Northwestern University, is an able epitome of conditions effecting and affecting medical education today.

Dr. Cutter approaches the subject from the sanest sort of a viewpoint and yet with a clarity of vision and breadth of perspective that makes of the chapter easy reading for the lay mind and a confirmative survey of what many of Dr. Cutter's brothers-in-medicine are discussing everywhere with the greatest of interest.

Medical education is becoming one of the leading economic questions of the day. As Dr. Cutter states in his opening sentence, "Medical education in the United States today cannot be fully understood apart from certain phases of its development historically. The present plane was reached only after long and continued effort. In this development a very significant determiner has been the American Medical Association.

"The convention which organized this association met in Philadelphia May 5, 1847. As a basic principle of organization it adopted the policy of representation, making the voting members of the association a body of delegates from medical societies and institutions in a definite numerical ratio.

"From the beginning this organization concerned itself with the great issues of medical education. But worthy as were its efforts, medical schools continued to multiply for many years and low standards prevailed generally."

Dr. Cutter traces concisely the gradual growth of the improvement of medical requirements—i. e., of requirements of a man himself and of his mental equipment as pre-medical students and of lengthened and increased curriculum up until the present time when the high cost of medical education in both time and cash is be-

coming as great an economic problem as any other confronting the profession.

The extremely prominent part that the state of Illinois has always played in advancement of medical standards is everywhere manifest in Dr. Cutter's article. How many know that at Springfield in 1881 in the fourth annual report of the Board of Health of Illinois was published the first survey of medical colleges and medical education in America?

According to Dr. Cutter in 1800 there were four active medical schools that in sixty years had increased to 66, and in the next thirty years to 160.

"In the absence of active federal control over medical education and in the absence of a federal medical-practice act, each state was privileged to fix requirements governing education and licensing," he writes.

Valuable, comparative, tables with enlightening statistics illuminate the conditions involved and the information set forth in an excellent manner. There is practically no point of medical practice or affiliated labor that Dr. Cutter has not considered in his article. Within its sixty-five pages there is not an unnecessary word, and scarcely a wanted fact.

To be sure, Dr. Cutter remarks:

"The graduate in medicine must always remain a student. For him, graduation is in reality a commencement. Each year, even each month of his subsequent career, will bring advances and new discoveries in medical science; discoveries to which he may possibly contribute, advances of which he must at least have accurate knowledge. There is so much for the student to learn today as compared with the field covered by medicine a generation ago, that to cover it thoroughly is recognized as an impossible task.

"Medical education seeks, not the amassing of facts, or the development of the encyclopedic type of mind, but rather the discovery and development of the inquiring type of intellect, ready to approach a new problem from the standpoint of basic principles."

The article as a whole is a brief but comprehensive survey of medical achievement and scholastic aspiration.

Throughout the entire chapter wherein Dr. Cutter systematically marshals the facts in the history and progress of medical science and practice, he ever keeps before the mind of the reader the idealism of medicine and the idealism of the practitioner. Constantly he strives to keep these pictures in view and to emphasize their universal significance for society and the individual.

In the present age of commercial standards no presentation could have a greater importance nor more adequately call attention to a real necessity without minimizing in any degree the abundant informative material which is massed in this volume. One can honestly say that Dr. Cutter's exposition is an invaluable contribution for the medical educator and practitioner.

The book "Higher Education in America" is published by Ginn & Company of Boston-New York-Chicago.

IF YOU ADVERTISE YOU WILL DOUBLE THE EFFORTS OF THE QUACKS AND THEY CAN MAKE MORE NOISE THAN YOU CAN, AND UNFORTUNATELY THE GENERAL PUBLIC IS NOT ABLE TO DISCRIMINATE.

Dr. Olin West, secretary of the American Medical Association, in an extemporaneous address before the Secretaries' Conference of the Illinois State Medical Society, May, 1930, on economic and other subjects cited his personal impressions based on a large practical and personal experience.

The following excerpt on medical advertising is quite apropos because of the present acute agitation along this line by newspaper owners and some physicians. We quote:

"I am opposed to any kind of scheme yet invented to advertise medicine, I do not care whether it is to advertise the individual or the group. *We do not need advertising.* You cannot advertise except at your own expense. I do not mean financial expense, I mean at the expense of your status as a physician. I have been watching these schemes for a good many years and have watched the societies spend money on them, and I have watched them drop them one after another, and *they invariably say the scheme did more harm than good. One of the biggest societies in the United States was split wide open by an advertising scheme,* and half *of the members were set against the other half,* and the respect of the community for the medical profession in that state was tremendously reduced.

I do not see any reason why medical societies should pay newspapers to give the public the facts. The biggest responsibility—on the press of this country, whether it be newspaper or magazine or medical journal, is to give the public the truth. They cannot get the truth except from medicine itself. The press ought to assume its own responsibility, its own duty, without taking money out of the pockets of medical men. I have communicated with a number of officers of societies that tried it, and the public believed that it was a selfish proposition, and in that fact lies the explanation for a certain loss of confidence on the part of the public in the medical profession. The fundamental principle involved is the fact that the man with the most money who can make the most noise and has the least regard for truth, is the one who always wins. If you advertise you will double the efforts of the quacks and frauds, and they can make more noise than you can, and unfortunately the general public is not able to discriminate."

BACK NUMBERS OF THE JOURNAL WANTED:

The Bureau of Science Library, Department of Agriculture and Natural Resources, Manila, Philippine Islands, desires back numbers of the ILLINOIS MEDICAL JOURNAL as follows: Vol. 29—February and March 1916; Vol. 30—August and December 1916. Also:

The Northwestern University Medical School, Chicago, desires volumes of transactions of the Illinois State Medical Society as follows: First to twenty-second volumes, covering the years 1850-1872, both inclusive.

Kindly forward back numbers to ILLINOIS MEDICAL JOURNAL, 185 N. Wabash Avenue, Chicago, Illinois, or notify the JOURNAL office and postage will be forwarded promptly.

ANNOUNCING THE FORTHCOMING "AMERICAN JOURNAL OF CLINICAL PATHOLOGY"

Doctor T. B. Magath of the Mayo Clinic has accepted appointment as editor-in-chief of the new official journal of the American Society of Clinical Pathologists to be known as the American Journal of Clinical Pathology, of which the first number will be issued in January, 1931.

The new journal will emphasize new methods in laboratory work, the material being primarily of a practical and cinical nature. It is designed to be useful and serviceable to the technician as well as to the pathologist. For the present the journal will be published bimonthly.

THE CHICAGO SOCIETY OF ALLERGY ORGANIZED

The Chicago Society of Allergy which has been meeting informally was formally organized Nov. 12, 1930.

The following officers were elected: Pres., H. L. Huber; Sec'y-Treas., L. Unger. Executive committee: Wm. L. Beecher, S. M. Feinberg, F. L. Foran, M. Lichtenstein, I. Pilot, S. T. Taub, and the officers.

Meetings will be held the third Monday night of each month and scientific programs will be presented. All interested are invited.

Leon Unger, Secretary,
185 N. Wabash Ave.

EYE, EAR, NOSE and THROAT SECTION

The program for the Eye, Ear, Nose and Throat Section of the Illinois State Medical Society Meeting to be held May 5 and 6, 1930, at East St. Louis is now being made up.

Any member of the Section desiring a place on the program is requested to communicate with the undersigned giving the title and a synopsis of the paper. As the number of places is limited it is suggested that prompt action is desirable.

W. C. Williams, M.D.,
Jefferson Building, Peoria, Illinois.

A CORRECTION

A FALSE REPORT has been circulated to the effect that PHENO-COSAN has been withdrawn from the market. Such rumor is false, malicious and without foundation. The manufacture of PHENO-COSAN has never been interrupted; it is carried in stock by reputable druggists and wholesale drug distributors everywhere.

DOCTORS WISHING TO PRESENT PAPERS BEFORE THE MEDICAL SECTION OF THE ILLINOIS STATE MEDICAL SOCIETY

"Those wishing to present papers before the Medical Section of the Illinois State Medical

Society of the next meeting May, 1931, will please notify the officers of this Section at the earliest possible date."

LOWELL D. SNORF, M. D.,
Chairman.

25 E. Washington St., Chicago.

PEOPLE MAY BE STANDARDIZED WHEN WELL, THEY ARE ALL INDIVIDUALISTS WHEN ILL. A MACHINE CANNOT ATTEND THEM

Considering the tremendous amount of work required to establish every shred of information about illness and disease and make it conform to the major pattern of modern medicine, the medical men of the past must have been marvelously endowed. The future should be measured by the past. To make us a mechanized group of robots would be disastrous. People may be standardized when well, they are all individualists when ill. A machine cannot attend them.

HARRY M. HALL, M. D.

STATE MEDICINE IN FRANCE

Under the French system of gratuitous relief the law provides that every sick person without resources shall receive free of charge, from the local authorities, the country or the state, according to his domicile, for relief purposes, medical assistance at his dwelling, or, if proper care cannot be there afforded, in a hospital.

Under this legislation in 1929, about 1,500,000 persons were benefited of whom half were attended in their dwellings. Over 1,800 hospitals exist, and the children alone who receive free medical care number 180,000 annually.

Since the war public health provisions have organized 600 public dispensaries, as well as sanatoria with 12,000 beds.

ATTORNEY GENERAL CONSTRUES CORONER'S DUTY IN CASE OF DEATH WITHOUT MEDICAL ATTENDANCE

November 10, 1930.

File No. 2856
OFFICERS:
Coroner's duty in case of death occurring without medical attendance.

Hon. Andy Hall,
Director,
Department of Public Health,
Springfield, Illinois.
Dear Sir:

I have your letter of October 11, in which you direct attention to the large number of deaths from unknown causes reported from Cook County during the year 1929, as compared to former years. You state that the increase is due to the action of the coroner of that county in disclaiming responsibility in all cases of death occurring without medical attendance, and you inquire whether it is his duty to investigate such deaths and issue death certificates.

Section 8 of the Vital Statistics act, being paragraph 43 of chapter 111¼, Smith-Hurd's Revised Statutes, 1929, provides that in case of any death occurring without medical attention, it shall be the duty of the undertaker or persons acting as such to notify both the local registrar and the coroner of such death, and in such case, if no suspicion of death from violence, casualty or undue means exists, the local registrar may make the death certificate from the statement of relatives or other persons having adequate knowledge of the facts. It is clear that under the provisions of said section, before the local registrar is authorized to make the certificate in any case of death occurring without medical attendance, there must first be a determination of the question whether any suspicion of death from violence, casualty or undue means exists.

The duties of the local registrar are purely ministerial. (*People v. Heckard,* 244 Ill. App. 112.) He has neither the authority nor the machinery to make an investigation for the purpose of determining whether a death has been caused by violence, casualty or any undue means. Section 10 of the Coroner's act confers power on the coroner to conduct investigations for that purpose. His powers are quasi-judicial in their nature and he may summon a jury and subpoena and examine witnesses under oath. (*Devine v. Brunswick-Balke Co.,* 270 Ill. 504, 511.) It is because of the powers conferred upon him by the Coroner's act that section 8 of the Vital Statistics act requires that he must be notified by the undertaker of deaths occurring without medical attendance. The only purpose of such noti-

fication is to enable the coroner to perform his duty, namely, to determine whether in such case any suspicion of death from violence, casualty or undue means exists. If his examination or preliminary investigation discloses that the death is due to natural causes, and there is no evidence of any injury to the body, he may, in his discretion, as provided by section 10 of the Coroner's act, issue a death certificate without conducting a further inquest.

In view of the provisions of section 8 of the Vital Statistics act, relative to the authority of the registrar to make death certificates, I am of the opinion that the foregoing provisions of section 10 of the Coroner's act have reference to cases where the coroner's preliminary investigation discloses that the death is due to natural causes, and further discloses the disease causing such death. In such cases I think it would be mandatory on the coroner to make the death certificate, and that the only discretion vested in him by said provisions relates to the waiver of a further inquest, and not to the issuance of a death certificate. I am of the further opinion that if the investigation by the coroner establishes the fact that the decedent died from natural causes, but does not disclose the disease causing the death, and he reports the result of his investigation to the registrar, the latter official would then have the authority under the provisions of section 8 of the Vital Statistics act to make the certificate of death from the statement of relatives or other persons having adequate knowledge of the facts.

There is no express provision in the statute that the coroner must report the result of his investigation to the registrar. However, that duty may be fairly implied from his duty to investigate. In my opinion the provisions of section 8 of the Vital Statistics act must be read and construed in connection with the provisions of section 10 of the Coroner's act, and when so construed limit the jurisdiction of the registrar, as above stated.

I am returning herewith all papers accompanying your communication.

Yours very truly,

OSCAR E. CARLSTROM,

ADR-AL Attorney General.

Enclosures.

CAN A CORPORATION PRACTICE MEDICINE? CALIFORNIA COURT RULES NOT

An interesting decision by Judge Samuel R. Blake of the Los Angeles Superior Court. In the November issue of "California and Western Medicine" is printed a digest of the decision rendered of Judge Samuel R. Blake of the Superior Court of Los Angeles. The decision was on a proceeding filed by Granville MacGowan of Los Angeles, against the Medical Service Corporation, a corporation with its major offices of business in Los Angeles.

The question, whether a corporation can be organized to practice a learned profession such as law or medicine, has recently been much discussed in those two professions. The opinion handed down by Judge Blake is important and worthy of perusal. We quote:

MEDICO-LEGAL

Judge Samuel R. Blake of the Superior Court of the State of California in and for the County of Los Angeles, in the case of The People of the State of California on the Relation of Granville MacGown, Plaintiff, vs. Medical Service Corporation, a Corporation, Defendant, recently rendered a decision that should be of much interest to members of the California Medical Association.

Because of the importance of this particular decision a digest of Judge Blakes' opinion, which recently came into the hands of the editor, is here printed:*

Points for Decision

1. Two of the main questions involved are:

(a) Can a corporation practice medicine?

(b) Is the manner and method in which the defendant corporation is conducting its business, practicing medicine?

On the first proposition the court concludes that a corporation cannot practice medicine. A corporation may be formed for any purpose for which individuals may *lawfully* associate themselves.

The defendant's contention is that since doctors may

*At the time Judge Blake gave his opinion from the bench, the daily press, in substance, stated that Judge Blake's order dissolved the franchise of the Medical Service Corporation and perpetually enjoined that particular corporation from practicing medicine.

Of course, in a legal matter with such scope and ramifications, this decision is not apt to be the end of the story. The entire situation will continue to bear watching. In the meantime it is a pleasure to know that a verdict has been handed down from a Superior Court bench on some of the legal phases of this important problem which is concerned with the attempt of certain corporations to practice medicine.

It must be a gratification to all members of the California Medical Association to know that the effort and work of Dr. Granville MacGowan of Los Angeles had such a successful outcome.

lawfully associate themselves together to practice medicine, likewise it may do so in its corporate capacity as a corporation by employing as its agents qualified physicians and surgeons to do the work of the corporation.

The vice of this contention consists in its assumption that individuals may generally and as a matter of right associate themselves together for the practice of medicine; this assumption is fallacious since under the laws of California individuals may not either singly or in an association engage in the practice of medicine without having a special license so to do, and hence individuals forming a corporation could not under our law gain any other or further right by the act of incorporation than lawfully possessed by either, singly or in the aggregate, without incorporation.

The corporate cannot, of course, as a corporation, pass the medical board examination and can only act through its agents. The right to practice medicine attaches to the individual and dies with him, and it cannot be made a subject of business sheltered under the cloak of corporation having marketable shares descendable under the laws of inheritance. All the directors of this corporation, or stockholders, may be licensed practitioners, but any time these directors or officers, by death or otherwise, may transfer their shares and it might be succeeded by laymen, none of whom possess the right to practice medicine.

Therefore, under the maxim that you cannot do indirectly, as in this case by the creation of a corporation, that which is directly prohibited by law; upon this proposition the great weight of authority in California and elsewhere is that a corporation cannot, as such, practice medicine.

Is the Manner and Method Under Which the Defendant Corporation Is Conducting Its Business Amounting to Practicing Medicine?

The evidence shows that the defendant corporation is engaged in the business of conducting dispensaries throughout the city of Los Angeles, with its principal office located in the Pantages Building, scattered throughout the industrial district. There are six or seven stations where minor industrial injuries not requiring medical attention are treated. Each of these stations has a waiting room and room where treatment is administered. In each of the stations there is an operating table and instruments necessary to enable a physician to give first-aid treatments. These stations are classed as emergency hospitals and are maintained by the agents of the defendents corporation. In each of the stations the defendant maintains one physician, licensed, and these doctors are employed by the corporation on a straight salary, and are paid a small bonus if the company makes a profit from his particular station. The evidence further shows that the corporation confines its activity to purely and entirely industrial cases. The defendant corporation has no nurses at its branches and the only nurse is at the main office. The doctors are at all times employed by the company and the physician and surgeon gives all his time to the defendant corporation. All of the doctors are required to report to a chief surgeon, Dr. Nelson at the head office. The corporation makes a charge for the services rendered by the doctor whenever a case is closed. The doctor himself makes no charge and the doctors at various stations are not permitted to treat any private cases of their own, and only do the work of the corporation. This is a brief summary of the important facts of the case.

This unquestionably is a case of first impression in the State of California, being a proceeding by the Attorney General to cancel and annul the franchise of this defendant corporation for the reason that they have violated a law of the State of California and engaged in a business as a corporation, which it is unlawful to do.

The court concludes that the acts enumerated and done by the defendant corporation constitute practicing a system of medicine, or mode of treating the sick and afflicted in this state, within the meaning of the Medical Practice Act, and, therefore, is in violation of law.

Several other important questions are involved, to wit:

1. Whether or not such a holding affects hospitals and charitable institutions now in existence which are corporations.

Clearly this rule would not in anywise affect hospitals and infirmaries which are not practicing medicine, but are independent of the practice of medicine and surgery, nor are most of those institutions profit-sharing institutions and practicing for profit, while the defendant corporation is, and there is no analogy between the present case and the case of hospitals or other private corporations.

2. The fact that the Workmen's Compensation Act compels all employers to furnish medical and surgical aid to the injured in the course of their employment does not offer any reason for a corporation to engage in the practice of medicine. It only requires that they furnish medical aid of a physician and surgeon, and it is not necessary to form a corporation to furnish a physician and surgeon for medical aid.

If, in the last analysis, corporations are allowed to practice medicine as a general proposition, it is the opening wedge to the commercialization of the practice of the learned profession of medicine, and permits the creeping in of many unethical and uncontrollable factors which the law has heretofore rigidly sought to avoid.

One of the main objections to allowing a corporation to practice medicine would be unquestionably the inability of the state to control the practice of medicine by a corporation as it does control it now under the Medical Practice Act, as each member of the profession comes directly under the Medical Practice Act and the corporation herein does not. Unprofessional conduct on behalf of the corporation could not be reached, such as aiding or betraying a professional secret, advertising, or offenses involving moral turpitude, and many others too numerous to mention.

Unquestionably, if the corporation does not come within the provisions of the Medical Practice Act, it would be immune from its penalties or provisions; therefore it is important to the welfare of the people of the State of California, and hence the importance of the prohibiting of a corporation from practicing medicine as a corporation and engaging in that business through its agents for profit.

SAMUEL R. BLAKE, *Judge.*

Attorneys for plaintiff:
U. S. Webb, Attorney General;
Gibson, Dunn & Crutcher, and
Norman S. Sperry.
Attorney for defendant:
Joe Crider, Jr.

Other state courts have held that a corporation cannot practice medicine, for instance:

In the state of *New York* it has been authoritatively decided that a corporation cannot practice medicine (People v. John H. Woodbury Dermatological Institute, 85 N. E. 697; People ex rel. Lederman v. Warden of City Prison, 152 N. Y. Supp. 977; Godfrey v. Medical Society of New York County, 164 N. Y. Supp. 846).

The Supreme Court of *Colorado* has held, too, that a corporation cannot practice dentistry (People v. Painless Parker Dentists, 275 P. 938).

To the same effect, in so far as relates to dentistry, is the *Kansas* case (Winslow v. State Board of Dental Examiners, 223 P. 308).

A similar holding is to be found in *Pennsylvania* (Com. ex. rel. Attorney General v. Alba Dentist Co., 13 Pa. D. R. 432).

The Illinois law forbids the practice of medicine by "any person," unless that person has a special license to so do. A corporation is "a person." A corporation cannot pass the medical examining board. The right to practice medicine attaches to the individual and dies with him. If our interpretation of the Illinois law is correct then the Illinois Medical Practice Act forbids the practice of medicine by a corporation. Perhaps we have in our present Illinois legal restrictions sufficient authority to prevent the encroachment on the medical profession by corporations attempting to engage in the practice of medicine.

MEDICAL SOCIALISM PROMOTES WHOLESALE MALINGERING

The A. M. A. regular London correspondent under date of August 16, 1930, has the following to say relative to medical socialism in relation to wholesale malingering. We quote:

MEDICAL SOCIALISM PROMOTES WHOLESALE MALINGERING

All socialistic attempts to make the community do what individuals should do for themselves have proved failures. The lesson may be read in the failure of the communal system of the pilgrim fathers, tried after they landed in America, as well as in Russia today. Our "national health insurance" is a gigantic scheme of medical socialism. Here is the report of the cautious official of the ministry of health, anxious not to say too much. "It is difficult to avoid the presumption that the habit of making unnecessary claims has set in and has steadily grown." Attempts are made by labor politicians to blink this fact. In an editorial, the position is revealed by the *Birmingham Medical Review:* "The habit of making unnecessary claims is well known to every panel doctor. In a way he is responsible, for he writes the certificates on which the claim is based. But, poor devil, he is in an impossible position. Authority has created the position. Aided by Authority, the suppliant for benefit holds the whip hand every time. He can demand the certificate with the threat 'Give me what I want or I'll change my doctor.' The highbrow people with fixed official salaries shake their heads when told that panel doctors cannot afford to resist doubtful claims. But the panel doctor knows from much painful experience that the happiness of himself and his family must depend on whether he is or is not popular with the insured population. And popularity depends only very slightly on professional capacity; almost entirely on willingness to accede to demands. The man who will deal out prescriptions and sickness certificates without questioning is popular. He gets the big panel. His more particular brother finds his panel dwindling. The newspapers have been trying to show that the panel patient seeking a rest is a model of everything a patient should be; that his physical condition is undermined by unemployment and consequently he is entitled to sickness benefit. It is not true." This may be compared with the experience of Germany, the pioneer of medical socialism. Dr. Erwin Lick, in his book, "The Doctor's Mission," says that the German system of medical insurance has promoted wholesale malingering to obtain incapacity payments. Again, in New Zealand the proposal to introduce medical insurance is opposed both by the profession and by the public. A leading journal, the *Dominion,* says: "It is not only that great bureaucracies grow up and fatten on such schemes, but that the so-called beneficiaries are morally debauched, losing self-reliance and independence."

SPEAKERS' BUREAU OF THE EDUCATIONAL COMMITTEE BUSY DURING NOVEMBER

117 Physicians addressed High School Assemblies, Parent-Teacher Associations, Women's

Clubs, Men's Clubs with a total attendance of approximately 31,000.

33 Health talks given over radio stations WJJD and WGN.

The Educational Committee through the courtesy of the American Medical Association was able to furnish four bound volumes of the publications of the American Medical Association for display at the Annual Meeting of the Illinois Biology Teachers' Association. The President reports that over two hundred teachers attended the meeting which was held at the University of Illinois and that many of them examined the publications and took the price lists in order to secure copies of this educational health literature for use in the schools.

Four requests came from college students for literature on State Medicine. Two of these came from members of debating teams in Michigan and two from members of debating teams of Bradley and Monmouth Colleges. The Committee was able to furnish satisfactory material and a report from a Michigan student who was on the side opposing State Medicine states that due to the help of the Educational Committee his side won.

SERVICE GIVEN BY SCIENTIFIC SERVICE COMMITTEE IS POPULAR WITH COUNTY MEDICAL SOCIETIES

Eighty appointments listed here represent only those which were made through the office of the Educational Committee and for county medical societies outside of Chicago; similar service is offered all medical societies of the state of whatever size and regardless of location. The Committee is particularly anxious to be of assistance to those societies which because of their location or their small membership find it difficult to secure speakers. The Committee can be of considerable help in giving county society meetings publicity and in getting out a better attendance. This office is at your service.

DATE	COUNTY SOCIETY	SPEAKER	SUBJECT
1929			
Nov.	Coles-Cumberland	H. B. Thomas	
Nov. 5	Randolph	O. L. Zelle	Caudal & trans-sacral Block
Nov. 6	Henderson	Joseph Greengard	Prophylactic Care During Infancy
Nov. 12	Rock Island	H. B. Thomas	Standardization of Treatment of Fracture
Nov. 12	Rock Island	Carl Hedblom	Diagnosis and Surgical Treatment of Pulmonary Suppuration
Nov. 14	Clark	J. T. Gregory	Gall Bladder
Nov. 14	Iowa & Illinois Central District Medical Assoc.	Henry Schmitz	Uterine Hemorrhage
Nov. 14	Iowa & Illinois Central District Medical Assoc.	J. H. Hutton	Endocrine Factors in Common Colds
Nov. 14	Bureau	C. L. Martin	Treatment of Hemorrhoids by Non-surgical & Operative Methods
Nov. 18	Knox	Wm. D. Chapman	
Nov. 20	Will-Grundy	Philip Lewis	Arthritis
Nov. 26	Macon	Gilbert FitzPatrick	Cancer
Nov. 26	Franklin	J. H. Hutton	
Nov. 26	Macon	Henry Schmitz	
Nov. 27	Will-Grundy	James T. Gregory	Gall Bladder
Dec. 12	Rock Island	Robert M. Oslund	Sex Gland Hormones
Dec. 12	Union	T. O. Freeman	The Old Man and His Prostate
Dec. 12	Iroquois	John R. Harger	Diagnosis and Treatment of Acute Intestinal Obstruction
Dec. 19	Livingston	J. K. Calvin	Nephritis in Children
1930			
Jan. 14	Rock Island	Isadore Pilot	Bronchial Asthma
Jan. 15	Christian	Quitman Newell	Obstetrics
Jan. 22	Will-Grundy	J. E. Fitzgerald	Cardiac Complications During Pregnancy
Jan. 23	Pike	J. J. McShane	Communicable Diseases
Jan. 23	Pike	Andy Hall	Some of the Health Problems of Illinois
Jan. 29	Will-Grundy	G. Henry Mundt	Social Aspects of the Practice of Medicine
Jan. 30	Iroquois	H. A. McGuigan	Anesthesia
Jan. 30	Iroquois	Becker of Danville	Anesthesia
Feb. 4	Vermilion	C. A. Elliott	Observations Concerning the Treatment of Diseases of the Liver
Feb. 5	Will-Grundy	Henry B. Thomas	Crippled Children & the Elks Foundation
Feb. 6	Sangamon	Films-American College of Surgeons	Diagnosis & Treatment of Infections of the Hand
Feb. 7	Madison	C. D. Center	A Family Talk
Feb. 11	Rock Island	A. F. Lash	The Treatment of Puerperal Infections
Feb. 12	Will-Grundy	Wm. F. Petersen	Protein Therapy

Feb.	19	Will-Grundy	R. W. McNealy	A Discussion of Pelvic Fractures and Their Complications
Feb.	20	Whiteside	G. Henry Mundt	Otitis Media and Mastoiditis
Feb.	20	Whiteside	Frank M. Phifer	Complications of Gonorrhea in the Male
Feb.	20	Jackson	John Carey	Pediatrics
Feb.	25	Irving Park Branch Chi. Med. Society	J. H. Hutton	Recognition & Treatment of Common Endocrine Disturbances
Feb.	27	Iroquois	J. J. McShane	Epidemic Spinal Meningitis
Feb.	28	Clay, Marion, Clinton & Effingham	A. E. Kaehler	Suprarenals
Mar.	5	Warren	Philip Kreuscher	Crippled Children's Clinic
Mar.	6	St. Clair	F. O. Fredrickson S. C. Woldenberg	Management of Gastro-Intestinal Cases
Mar.	11	Rock Island	F. Lee Stone	The Rubin Test for Tubal Patency
Mar.	12	Will-Grundy	Francis E. Senear	Modern Conceptions Concerning the Treatment of Heart Disease
Mar.	21	Coles-Cumberland	H. E. Irish	Prevention & Treatment of Heart Disease
Mar.	26	Iroquois	Clement L. Martin	Treatment of Hemorrhoids by Non-Surgical and Operative Methods
Apr.	2	Will-Grundy	W. S. Grosvenor	Thirty Years of Obstetrical Experience
Apr.	8	Rock Island	Wm. F. Petersen	Protein Therapy
Apr.	9	Will-Grundy	Clement L. Martin	Treatment of Hemorrhoids by Non-Surgical & Operative Means
Apr.	10	Kankakee	A. L. Larkin	Everyday Uses of Radium
Apr.	24	Franklin	A. A. Goldsmith	Gastric and Duodenal Ulcer
Apr.	25	Douglas	Arthur Abt	Immunization
Apr.	30	Will-Grundy	J. Greengard	Pediatrics
May	1	Henry	Edwin W. Hirsch	Pathology, Diagnosis and Treatment of Prostatic Hypertrophy
May	1	Henry	Clement L. Martin	Proctologic Problems of General Interest
May	6	Mercer	Lucius H. Zeuch	Pioneer Physicians and Shrines of Western Medicine
May	6	Mercer	R. K. Packard	Medical Economics
May	7	Will-Grundy	A. J. Larkin	Radium in General Practice
May	13	Rock Island	J. H. Hutton	Thyroid and Ovarian Disturbances at Puberty and the Menopause
May	13	Rock Island	Don C. Sutton	Treatment of Heart Disease
May	14	Randolph	Elsworth S. Smith	Heart and Cardio-Vascular Disease
June	2	Iroquois	E. G. C. Williams	Diseases of the Blood
June	2	Iroquois	E. J. Wheatley	
June	11	Randolph	Cecil M. Jack	Non-Tuberculosis Diseases of the Chest
June	13	McHenry	Harry M. Hedge	Some Common Diseases of the Skin
June	19	Jackson	A. M. Miller	Spinal Anesthesia
June	20	Piatt	John R. Neal	Medical Economics
July	7	Hancock	J. E. Camp	
July	7	Hancock	Wm. D. Chapman	
July	7	Hancock	E. P. Coleman	
July	7	Hancock	Andy Hall	Public Health and the Practicing Physician
July	17	Christan	T. O. Freeman	Acute Abdominal Emergencies
Aug.	5	McHenry	Walter R. Fischer	Foot Deformities—Etiology, Prevention and Treatment
Aug.	21	Elgin State Hosp.	John R. Harger	Treatment of Goiter in the Insane
Sept.	9	Rock Island	Nathan S. Davis III	Diagnosis and Treatment of Heart Disease
Sept.	11	Coles-Cumberland	Harold Swanberg	Modern Treatment of Carcinoma of the Cervix
Sept.	19	Alexander	Edmund Andrews	Diagnosis and Treatment of Gall Bladder Diseases
Sept.	25	Iroquois	E. P. Sloan	Procidentia
Sept.	25	Iroquois	H. Wellmerling	Treatment of Varicose Veins
Sept.	30	9th & 10th Dst. Meet	Nathan S. Davis Wm. D. Chapman	
Oct.	8	Will-Grundy	A. A. Goldsmith	Chronic Colitis
Oct.	13	Tri-County Med. Meet	R. K. Packard	Surgical Mortality and Morbidity
Oct.	13	Tri-County Med. Meet	A. A. Goldsmith	Chronic Colitis
Oct.	13	Tri-County Med. Meet	E. L. Cornell	Forceps Delivery
Oct.	14	Rock Island	Harry M. Hedge	The Modern Conceptions & Treatment of Syphilis
Oct.	15	Will-Grundy	A. F. Lash	
Oct.	22	Will-Grundy	James G. Carr	Cardio-Vascular Disease
Oct.	29	Will-Grundy	Edmund Andrews	The Diagnosis of Chronic Abdominal Pain
Nov.	4	Iroquois	Walter Nadler	Medical Treatment of Hepatic Disease
Nov.	5	Will-Grundy	C. S. Williamson	Research Work Along the Lines of Anemia, Especially Nutritional Anemias and Pericarditis
Nov.	11	Rock Island	G. deTarnowsky	Surgical Management of Carcinoma of the Colon
Nov.	12	Will-Grundy	Hugh McGuigan	Digitalis Therapy
Nov.	19	Will-Grundy	H. D. Singer	Syphilis of the Nervous System
Nov.	20	Jackson	T. O. Freeman	The Acute Abdomen
Nov.	26	Will-Grundy	W. F. Petersen	Focal Reactions in Chronic Disease
Dec.	10	Will-Grundy	Peter Bassoe	Acute Infections of the Central Nervous System

WHAT IS A PREVENTORIUM?

The Illinois Tuberculosis Association has for distribution tuberculosis' abstracts (a review for physicians) issued monthly by The National Tuberculosis Association. Abstract No. 10, October, 1930, is from an article by H. E. Kleinschmidt, Journal of Public Health, July, 1930, entitled What Is a Preventorium? We quote:

WHAT IS A PREVENTORIUM?

The term "preventorium" was first used to designate a convalescent home for adults (Brehmer's Rest at Ste. Agathe des Monts in Canada) on the ground that any depleting illness may predispose to tuberculosis and that after-care tended to prevent tuberculosis.

In 1909, New York City, through the interest of Dr. Alfred Hess, established at Farmingdale, N. J., an institution to take care of "pre-tuberculous" children. It was called a preventorium. Unlike the Canadian institution, which was designed for convalescent adults, that at Farmingdale was exclusively for children presumably threatened with tuberculosis. Similar institutions sprang up, though practices and procedures were not uniform.

Ideas as to what the preventorium was supposed to be and do were vague. However, the dominating purpose of all was a desire to provide care for the sick child. The term, "pre-tuberculous," was applied rather loosely to the child with actual tuberculosis, the child of a tuberculous household, and the child below par in health, as expressed usually in malnutrition, but all were regarded as sick children.

Quite another development in these early days was the establishment of fresh air schools and open window rooms. Their purpose was to increase the resistance of certain selected persons, who were not sick but who were presumed to be potential victims of tuberculosis. The emphasis was on health building rather than on disease prevention.

As we learned to differentiate between infection, mass infection, and actual disease, and as it became evident that the beneficial results of both preventoria and fresh air schools were to be attributed to rest, good nutrition, and a well-regulated regimen, the procedures and objectives of both types of institutions tended to merge. For that reason, it is today impossible to answer statistically how many preventoria and fresh air schools there are in the United States.

Three years ago, the Committee on Preventoria of the National Tuberculosis Association formulated this definition: "A preventorium is a twenty-four hour, twelve months institution for the care and observation of children substandard in health." The general purpose of this institution was assumed to be giving preventive care to children threatened with tuberculosis, heart disease, or other potential disability. Exact standards of eligibility were not defined but the Committee indicated the groups from which selections for the preventorium might be made, as follows:

1. Children exposed to tuberculosis at home, or in whose immediate family there has been a recent death from tuberculosis.
2. Children who have had tuberculosis, whose lesions are not active, and who appear to be in need of further care and observation.
3. Children suffering from malnutrition.
4. Children who tire easily and who are unable to carry on their class work.
5. Children frequently absent because of colds, bronchitis, etc.
6. Children suffering from rheumatic heart disease (of certain classifications).

It is now recognized that many children who need protective care do not require the exacting regimen furnished by a twenty-four hour, highly specialized preventorium. Some preventoria assume complete charge of their children, keeping them for twenty-four hours of the day the year round until they have apparently developed good resistance, while others permit their charges to return home over the weekend. The predominating purpose of these institutions is to give medical care, and secondly to provide school instruction. Another type of preventorium is essentially a school which cares for the children only during school hours and which furnishes supplementary meals, rest periods during the day, etc., while in the meantime conditions in the children's homes are scrutinized and supervised by a special follow-up worker.

While preventoria, fresh air schools, open window classrooms, nutrition classes, and health camps vary widely in their procedure, the main purpose of all seems to be to give handicapped children an extra life so as to prevent the threatened disaster of pulmonary tuberculosis in later years. Opinion in the main seems to be that children with the childhood type of tuberculosis (unless progressive) should not be regarded as sick children but rather as being threatened with disease. Certainly, children with the adult type of pulmonary tuberculosis should not be in the preventorium, not only because they are definitely ill, but also because they are potential spreaders of the disease.

There would be less confusion of thought about preventoria were discussions concerned not so much with building construction, physical equipment, staff, etc., but with the therapeutic requirements of children who need protective care. Indications for treatment of such children are:

1. Contact with the tuberculous adult, who presumably has infected the child, must be broken. This is done by removing the tuberculous adult to a sanatorium, by taking the child out of the home, or by teaching every member of the household the principles underlying the transmission of tuberculosis.

2. The child must be relieved of all possible strain; i. e., strenuous exercise and burdensome school work. Rest is the cornerstone on which preventorium care is based.

3. The child's health must be built up; physical defects must be corrected and the benefits of good food, sunshine, and fresh air must be made available.

4. The psychology of the child must be adjusted so that he will not think of himself as being inferior to others gifted with greater reserve of physique, and yet restrain over-ambitious impulses.

These indications for treatment can, under ordinary circumstances, be met without the aid of a definite institution, but there are, of course, numerous "problem families," as the social worker calls them, where it is impossible to meet the requirements enumerated above. These problem families are not limited to the poor or ignorant, but include many families of intelligence and of means who, for any reason, are unable to afford the child the necessary protection.

While no formula can be given for the solution of the problem, an understanding of the general principles should enable any community to determine the type of preventorium care which best suits its needs. The various attempts now being made to cope with the problem should be regarded as experiments. The test of time will reveal which type of preventorium is the most efficient. Fortunately, a number of preventorium institutions are carefully following their pupils into adult life in order to learn what their subsequent experiences may be. When enough of such data has been collected, we may be able to determine more precisely what the ideal form of organized care may be.

Correspondence

DR. IRVING S. CUTTER MADE PERMANENT HISTORIAN OF THE ILLINOIS STATE MEDICAL SOCIETY

Monmouth, Illinois,
November 21, 1930.

To the Editor:

At the meeting of the House of Delegates at Joliet last May, a resolution was introduced whereby the Society was urged to have a permanent historian to record the happenings and professional events each year, and to create an interest in our Medical Traditions of the past. The House of Delegates voted unanimously to refer the resolution to the Council, with power to act for the Society.

At a recent meeting of the Council a motion was unanimously adopted that we create the position of permanent historian, and that Dr. Irving S. Cutter, Dean of Northwestern University Medical School, Chicago, be tendered the position subject, of course, to his approval.

Dr. Cutter has assured us that he accepts the appointment and that he will do everything possible to aid the Society at all times. We are indeed fortunate to have a man in our Society with Dr. Cutter's ability, and well recognized knowledge of Medical History. Every member of the Illinois State Medical Society should assist Dr. Cutter at all times, so that the history of medicine in Illinois will be well preserved for future generations.

HAROLD M. CAMP, M. D.
Secretary.

Note and Comment:

The appointment of a Permanent Historian fills a heretofore much neglected phase of service by our State Organization. The proper perspective on preservation of our medical annals suggests the creation of a permanent historian for the State Medical Society. The happenings and professional events of importance will be recorded each year; details of these events will be fresh in the memory of the historian and can be accurately set down without loss of color; the report of the historian can be recorded annually in the archives and this report can also be presented at the annual meeting of the State Society for discussion and approval, just as is done with reports from other committees. At intervals of ten years or at other stated times, these reports can be taken out and put into volume form for convenience.

HOW MEDICAL MEN MAY CAST BREAD UPON THE WATERS

AMERICAN MEDICAL EDITORS' AND AUTHORS' ASSOCIATION
412 WEST END AVENUE
NEW YORK

Nov. 10, 1930.

My dear Dr. Whalen:

I do not know how economic conditions are out in your section of the country, but in New York we see many men who have all their lives been workers and will be workers again as soon as the present economic crisis is over.

It is predicted that the winter will be a hard, cold and foodless one for many. If the five million people, ordinarily workers, are this winter driven to clinics for their medical advice, they are apt to become chronic clinic cases, even in good times.

It has occurred to me, quite outside of the altruistic view that we might take of it, that it would be a good plan for the medical profession

to offer to extend credit to the men above described, for the winter months.

Many medical men offering to do this would find they had cast bread upon the waters, because they would have good patients that they would not have if these cases were driven to the clinics, and I think if we ask the medical journals of the country to advocate this medical moratorium, we would be doing good not only for the unemployed but we would be doing a good thing for ourselves.

To discuss this matter and several other subjects of lesser importance, I am calling an Executive Council meeting for three o'clock, Monday, November 24th, at this office. If you find it impossible to be present, do you desire Secretary Vandervoort, myself or any other member of the Council to vote for you, so that we may be assured of a quorum voting?

(Signed) H. Lyons Hunt, M. D.,
President.

I DO NOT WANT TO BE A DOCTOR AND LIVE BY MEN'S DISEASES, NOR A MINISTER TO LIVE BY THEIR SINS A STORY OF COURAGE

"I do not want to be a doctor and live by men's diseases nor a minister to live by their sins, nor a lawyer and live by their quarrels. So I don't see that there is anything left for me to be but an author. How would you like some day to see a whole shelf full of books, written by your son, with Hawthorne's Works printed on their backs?"

The boy who asked this question of his mother was destined to become the foremost of America's novelists. His "Twice-Told Tales" and "Mosses from an Old Manse" were followed by that product of genius, "The Scarlet Letter." In 1851 two events of importance occurred in Nathaniel Hawthorne's household—the publication of "The House of the Seven Gables," and the birth of his youngest child, Rose.

Rose Hawthorne grew up in an atmosphere surcharged with intellectualism. She showed a talent for painting, and studied art in Germany. She wrote short stories for the little folk in "Wide Awake" and "St. Nicholas," and a volume of poems, "Along the Shore." Some exquisite specimens of her poetry are preserved in Stedman's American Anthology. At the age of 20, Rose Hawthorne married George Parsons Lathrop, author of "Rose and Rooftree," who will always be remembered as the author of the lyric beginning, "The sunshine of thine eyes." Each of them wrote a study of Hawthorne, and in collaboration they produced a novel called "A Story of Courage."

With the passing of the nineteenth century, Rose Parsons Lathrop disappeared from the world. In 1900 there was a new Dominican religieuse, Mother Mary Alphonsa, devoting herself to destitute sufferers from incurable cancer. Her work in the Cherry Street Home in New York City, and in the Rosary Hills Home in the village of Hawthorne, placed her by the side of Father Damien among his lepers in Molokai. She founded the community of Dominican nuns known as the Servants of Relief for Incurable Cancer. Mother Alphonsa's creations seem anomalous in this Motor Age. If you had friends or money, you could not enter the homes of Mother Alphonsa—only if you were poor and friendless were you received as a guest. If you were among the worst cases you would be tended by Mary Alphonsa herself, and you would be surprised to find that in addition to attending to all your needs, she sought to gratify every wish. In their last days the helpless and loveless victims of a baffling disease were face to face with a love that is rarely manifested on earth. In the Motor Age—and yet only those too poor to pay for any service were privileged to die holding the hand of a saint.

The other day the newspapers chronicled the passing of Mother Mary Alphonsa at seventy-six, and perhaps many were surprised to learn that she was no other than Rose Hawthorne Lathrop. The ancestors of Rose Hawthorne Lathrop whipped Quaker women and persecuted witches, but Mother Mary Alphonsa opened her arms to the cancer sufferers of every creed and race. Mrs. Lathrop wrote "A Story of Courage," but the tale does not compare with the story of courage which Mother Alphonsa lived.

The career of Mother Mary Alphonsa helps to redeem our era. To physicians, who know only too well the horrors of incurable cancer, the incredible sacrifice of this high-born woman has a special appeal. The history of cancer cannot be written without the story of Mother Mary Alphonsa and the Servants of Relief for Incurable Cancer.—*Medical Review of Reviews and California and Western Medicine.*

HAD HER WISH

In the days when it was considered quite the thing to entertain the doughboys in private homes, Mrs. Vanastorbilt called up the Army and Navy club and said, "I should like to have two of your men come to dinner with us Sunday at half past one, but please be sure that they are not Jews."

When Sunday came, two chocolate colored privates rang the bell at the Vanastorbilt house. Mrs. Vanastorbilt was, of course, greatly surprised, "Why," she stammered, "who invited you here?"

"Our commanding officer, Captain Cohen," replied one of the privates.

ACCOUNTED FOR

"Now they claim that the human body contains sulphur."

"In what amount?"

"Oh, in varying quantities."

"Then that accounts for some girls making better matches than others."—The Indicator.

Original Articles

SOME ECONOMIC FACTORS RELATING TO ORAL HYGIENE PROGRESS*

HERBERT E. PHILLIPS, D. D. S.
CHICAGO

Within the last few years in the dental profession, there has developed a great interest in the economic phase of dental practice. As the medical training of the physician has not fitted the physician for the business side of his practice, so dental training and tradition has also a tendancy to make the dentist ignore the economic side of his calling.

But within recent years there has been a growing demand on the part of the rank and file of dental organizations for recognition of the facts that many dentists are unable to make a decent living, that they have to remain in their offices long hours, have to work nights, are unable, because of custom, to charge reasonable fees for certain services, are often unable to collect bills because somehow or other people have the habit of not paying doctors' bills and have classified the dentist as just another doctor. I am told that credit rating agencies as a usual routine do not consider a person a poor risk if they do not pay their doctor's bill; a grocer's bill is different.

In addition to these complaints, there is the more serious one relating to the fact that many patients come to the dentists' office for an examination and for an estimate on the cost of needed service, and then step out of the chair with the statement: "I cannot afford to have my work attended to now, maybe later"— or they will make an appointment and not show up.

Since starting mouth examination and dental health educational work in the schools, an increasing number of parents bring their children to the dentist, have the necessary extractions taken care of but refuse to have the remaining carious teeth filled because they say they cannot afford it. On the other hand, some dentists refuse to take care of children because they cannot charge and collect a reasonable fee for children's service.

In an effort to meet intelligently this growing unrest among its members, some local societies have organized committees on dental economics to study the problems involved. At the meetings of these committees an effort is made to present programs to cover those phases of the subject on which sufficient data has been collected to give some constructive and helpful suggestions to the profession. This material is also used in study clubs.

In the Chicago Dental Society such a committee on dental economics was formed a year ago. This committee divided its members into subcommittees to study and report on a number of subjects, such as the survey of dental income, business procedures in office practice and problems affecting the profession as a whole, such as clinics, finance and collecting agencies, etc.

At the Chicago Dental Society Midwinter Meeting held at the Stevens Hotel, which was attended by about five thousand dentists from all over the country, speakers in the dental economics section presented papers on the following subjects:

Economic Management of Dental Practice.

The Status of Dentistry in our Economic System.

Conditions Under Which An Increase in Fees Is Justified in Dental Practice.

Symposium:

Is Dentistry Meeting Its Social and Health Obligation to All Members of the Community?

The Viewpoint of the Profession.

The Viewpoint of the Layman.

Public Health Viewpoint.

The Viewpoint of the Industrial Dental Clinic.

A Dental Collection and Credit Bureau for the Chicago Dental Society.

A debate was staged at which the following question was discussed: "Has the economic phase of dental practice kept pace with the scientific?"

These sessions and this debate drew the largest attention from our members of any of the sessions of the Midwinter meeting—more attending this section than any other. Since this program was presented a great many requests for copies of these papers have come to the Chicago Dental Society and practically all the speakers have had from one to a dozen calls to different parts of the country asking for more papers on the same subject.

I present now a short statement of the public

*Read before Illinois State Medical Meeting, Section on Public Health and Hygiene, May 21, 1930.

service and oral hygiene activities of our profession. Generally speaking, the Oral Hygiene committee members engage in dental health educational effort in schools and before lay groups. They, also, to make contact with state boards of health, endeavor to have dental health officers appointed and about twenty states now have such dental health officers. In the cities Oral Hygiene committees seek appropriations for oral health education and mouth examination in the schools, also for reparative dental clinics in the schools.

Most large cities and many small ones have carried on this work for years with varying degrees of success. I shall illustrate the field in which these committees work by reference to the Public Service Committee of the Chicago Dental Society. This committee has been very active. It has about thirty members and is divided into sub-committees under the different activities: Division of Lay Education in Cooperation with the Illinois Dental and Medical Societies and Federation of Women's Clubs, Division of Teaching Dental Hygiene in Public and Parochial Schools, Division of Dental Service by Chicago Department of Health and Cook County Advisory Board of Health, Division of Children's Dental Clinics, Division of Dental Health Exhibits, Division of Hospital and Children's Homes, Division of Extension of Children's Service by Dental Schools, Division of Public Speaking, Division of Industrial Relations.

In Chicago, with the active help of Dr. Kegel, Commissioner of Health, and members of the women's clubs, parent-teachers associations and social agencies, one hundred and ten thousand dollars was appropriated a year ago for the creation of a dental division in the Chicago Department of Health. These funds are expended under the direct and constant supervision of the Chicago Dental Society Public Service Committee through an advisory body of dentists. Two-thirds of these funds are expended for oral health education and mouth examination and one-third for free reparative work in the school clinics. I may say in passing that some of your active members of the Chicago Medical Society advised our members strongly against the free clinic phase of the work. While they did not act according to advice, the committee and members gave thoughtful consideration to that advice in their deliberations.

The Public Service committee also started and still supervises the Children's Dental Clinic of nine chairs at the Cook County Hospital.

Another activity of this committee is the giving of help and advice to the Amalgamated Garment Workers' industrial pay dental clinic for adults. At the request of Mr. Levine, a dental advisory committee selected the operators, decided as to their salaries, and made the schedule of fees to be charged. Before this advisory committee contacted with the union a meeting was called of the members of all the branches of the Chicago Dental Society practicing in that part of the city where the clinic operates. After a full discussion of the whole matter the members present by an almost unanimous vote recommended that the Public Service Committee appoint an advisory committee to advise and direct the union in the development of the clinic.

At the present time the Public Service Committee is negotiating with the Rosenwald fund with the idea of cooperating with them in the establishment of a self-supporting experimental pay clinic for those persons unable to pay the regular fees of private practitioners.

You will note that all these clinics are under the direct and efficient supervision of the Chicago Dental Society.

In view of the facts I mentioned in my opening paragraph, the question arises: "Is the Public Service section jeopardizing the economic status of dentistry by the activities in which it is engaged?" This question forces us to direct our thoughts to the realm of dental economics and to make some analysis of the dentists' function in modern society.

It is estimated roughly that sixty thousand dentists in the United States get approximately one hundred sixty million dollars for dental service annually. We go farther and find, roughly speaking, that twenty-five per cent. of the families in the United States have an income of over two thousand dollars a year. We also find from investigations made that the families with a two thousand dollar or less income spend practically nothing for dental service. They say they cannot afford it. That means that seventy-five per cent. of the population are getting little or no dental service. The upper income fifteen per cent. of this twenty-five per cent. of families, say those

getting three thousand dollars a year or over, can afford fair dental fees, and the lower ten per cent. cannot afford such fees.

Those dentists serving the first fifteen per cent. are as a rule the ones who have no particular complaint about income. Those, however, serving the lower ten per cent. are the ones who have reason for complaint and the more patients they have of the lower five per cent. the less likelihood they have of making a living income. This leaves about seventy-five per cent. of the population unable to pay fair dental fees. What can be done about it? Some adjustment must be made to meet this situation.

A few general principles: In the first place we must not look on change or experiment in the method of giving dental service as evil. Any change meeting certain requirements which will make possible dental service to a larger number of the population must be welcomed. Two questions, however, must be answered.

1. Will the change lower the standard of service as measured by that given under present private practice conditions or will it make possible an increasingly higher standard of service? No change is of lasting value to the public that contemplates or is likely to result in a lower standard of service.

2. Will the proposed change tend to lower the income of the private practicing dentist? The panel system in England has made dental service available to a large bulk of the population; it has also in a measure increased dental income, but it has lowered the standard of service in England. To illustrate: A fee fixed at seventy-five cents is allowed the English Panel dentist for treating any tooth. This treatment may take hours of time. A fee fixed at about twenty dollars is allowed for making a plate. The plate may take about the same amount of time. The result is, as Dr. Doubleday, president of the London Dental Society, says, "They do not treat many teeth; they make more money on plates."

The dentist must not be forced to become a trade unionist in attitude, and economic reasons rather than the patient's needs must not determine what treatment the patient will be given. So any change must not have a tendancy to lower the economic status of the dental profession. Dental income and standing must be sufficient to insure a constant supply of high grade intelligent young men and women to our dental schools. In England at the present time the dental schools are faced with a decreased interest in dentistry.

I have tried to indicate to you the interests involved in the two phases of dental activities and I hope I have made clear to you why in these questions of type and conditions of change, both the economic committee and the Oral Hygiene public service committee must come together and agree on procedure.

As a scientific body of men we have met the pathological conditions we seek to alleviate in a spirit of analysis and experiment and our researches have indicated from time to time the necessity of change in treatment or procedure based on the result of analysis and experiment. Must we not meet the problem of the community obligation of our profession in the same spirit and manner as we do our problems of treatment?

It is only as results of our analysis and experiment in treatment are applied to the needs of human beings that they have any value. Unapplied knowledge of scientific dental care is a dead thing, and seventy-five per cent. of our population are unable because of insufficient income to use modern dental service. Any change must be measured by the question: Will it make possible the application of the best in methods of treatment and of methods of prevention as they are developed? Will the change contemplated encourage further research and application of improved dental service?

The Panel system in England and the various similar methods adopted in European countries have greatly increased the number of people who receive dental service and have in many cases increased the dentists' income (as it has also the physicians'). They have on the other hand lowered the standard of service and have placed the practitioner in the position of a trade unionist. He does what he must for a set price.

In America the dental profession cannot afford to let anything like this happen and must show the American public that the professions here can plan and give leadership to an extension of service to the masses of people that will not jeopardize the high standard of service already achieved. To do this it will be necessary to meet the lay public in a way that will give them confidence in our ability to establish this service.

I will mention here two suggestions having this situation in mind that have been made in Illinois and both contemplate experiments that may lead to valuable results. One suggestion has to do with those health measures that relate to general public health and disease prevention. The plan provides that the professions give direction and leadership to that large and increasing number of lay groups who are becoming more and more interested in health measures, especially as they relate to children.

This first suggestion comes from Dr. Grace Wightman and has been given voice through the advisory committee to the division of Child Hygiene, State Department of Health. This committee is made up of representatives of the medical, dental, nursing, and public health professions, also of representatives of the Illinois Federation of Women's Clubs, and of the Illinois Congress of Parent-Teachers. This committee has been in existence for about three years and meets monthly.

The suggestion of Dr. Wightman is briefly as follows: The county is to be the unit in which all lay groups such as school officials, service clubs, churches, women's clubs, P. T. A., etc., are to organize a health committee under medical and dental leadership. All health activities are to be given voice and direction under these auspices. In this way dental and medical and lay backing could be given to periodical health audits, toxin, anti-toxin, vaccination, tuberculosis, maternity aid, periodic dental examination, pre-school examination, heart disease prevention, cancer prevention, and all other important health measures. In this way lay groups would learn to look to and depend on the professions for leadership in health matters and the medical and dental professions would learn how to lead lay groups in such important matters.

I may say in passing that through the service of this advisory committee a very close working basis has already become possible between the medical and dental organization and the Illinois Congress, P. T. A., and Illinois Federation of Women's Clubs and nurses. Your state medical society officials have helped these women's organizations plan their health programs and these women's organizations have given invaluable assistance to the dental organization in getting their program adopted in Chicago and other cities. In my judgment, if and when such county health units are organized and functioning, there would then be no need to fear either antivivisection, Sheppard-Towner or dental mechanics legislation. Informed intelligent lay group members, used to professional leadership, would be poor soil in which to sow that type of seed.

For the dentist this county unit offers a wide opportunity for carrying out one of the most important preventive measures we have—that is, educating the people to the need for regular periodic and careful dental examination and repair.

Also it would make it possible to get lay backing for adequate pay for dentists in schools, departments of health and clinics, a matter of definite economic significance from a dentist's standpoint. A public that has been educated to understand what good dental service is either preventive or reparative, will not be satisfied with less and will be willing to pay fairly for that service even if provided by state or private funds.

May I mention here that when a committee of women's organizations and members of the dental profession in Illinois visited the finance committee of the Legislature and Senate, several years ago, with the idea of having adequate salaries budgeted in the Department of Health budget for dental health officers (they asked for five and six thousand a year) the committee members were informed by the state officials that physicians could be hired for much less and surely a dentist could not ask for more.

I spoke of two suggestions for experiment in Illinois. I have mentioned the first one. The other suggestion referred to is the one made recently by Dr. M. L. Harris, one of your most active members, and I presume you are all familiar with the details. Dr. Harris prefaces his suggestion with a statement to the effect that it is the function and obligation of the medical (and he includes the dental profession) to provide medical and dental care for the rich and poor, those who can and those who cannot pay, and he suggests that meeting this obligation will require a spirit of social cooperation on the part of the professions and an extension of medical and dental service by important changes in organization. He then as you know proceeds to give the details of his county unit plan for giving the medical service to all who need it. Should

the physicians decide on experimenting with this or any other similar plan I am sure the dental profession would give full cooperation. It would give them a chance to experiment in districts outside the large cities and to feel their way in providing a much needed service to a population which does not at the present time realize the health value of dental service.

I wish to record a personal opinion, namely, that the state will in the next ten to twenty-five years seek to improve the health care of all of the American people through insurance, through clinics, pay and part-pay, through departments of health, through industrial medicine and dentistry, and by any other means or organization of medical or dental service they think will work. Industry will do this because having good healthy workers cuts down labor turnover, increases efficiency and stability and thus increases profits.

The state wishes to have healthy citizens. As many of you remember, our late draft of men for the world war indicated a large percentage of physical deficiency among our young men. This demand for healthy citizenry by both industry and the state, plus the increasing public demand for health care for children, plus the demand for health care for that increasingly greater number of people who are being educated to demand better health service by the educational efforts of organized medicine and dentistry—this demand I feel will have a tendancy to increase the number and type of organizations through which service will be rendered by physicians and dentists who will be employed for a fixed fee or on a salary.

If these organizations increase under the sole auspices of industry or of the state, or under the sole direction of lay groups, or funds, all of whom will attempt to purchase the professional service at a low wage, it will be inevitable that these employees, i. e., physicians or dentists, will have to organize into economic organizations or trade unions to protect their interests and secure adequate income and conditions of work. Such a union has, I understand, been formed in the Department of Health in Chicago.

In European countries, such as Germany, Austria and England and France, where these changes have already taken place under state and lay direction, economic professional trade unions have been organized.

In Germany, I am told, about eighty per cent. of the professional men are in the trade union organization and about thirty per cent. in the scientific organization. This change has of course resulted in the lowering of the standard of service to the people and has lowered the social standing and professional prestige of the practitioner.

To prevent the coming of this condition in the United States, European leaders in medical and dental organizations who have been through the fight strongly advise American professional men to prepare to meet this situation before it arrives in this country. They advise strongly that the professions lead in providing service, that they become the experimenters, and that all suggestions for change or improvement come first from professional men, that there be no break with but rather an attempt to cooperate with public opinion, in other words, that the professions become the experts in all phases of social change involving medical or dental service.

They advise that only by so doing can the valuable traditions and ideals developed by centuries of service and so necessary in guaranteeing the highest standard of service to the public, be saved for the future.

Only by having the organized professions extend the sphere of their activities to include the economic problems of practice can the formation of professional trade unions be prevented.

Only by giving wholehearted professional leadership and direction to the dental health efforts of lay groups can their confidence and cooperation be guaranteed, and a favorable public opinion be assured to the dental profession.

Only by recognizing what Dr. Harris calls our professional obligation can we dentists hope to meet the personal dental health needs of the people.

In my opinion it is imperative for the future progress of the dental profession that dental economics be given increasingly greater consideration and that all public service or oral hygiene activities be carried on with a full knowledge that the economic standing of the dentist must be of first consideration in any experiment in the field of dental service. On the adequacy of this economic base rests the whole superstructure of the future scientific and

professional attainments of dentistry and the standard of dental care the American people will receive.

5457 S. Ashland Ave.

THE SCHOOL PHYSICIAN IN A COMMUNITY HEALTH PROGRAM*

A. A. Crooks, M. D.,
PEORIA, ILL.

INTRODUCTION

To delineate in detail the full scope of the school physician's activities would irk you and consume more time than is at my disposal. I shall enumerate some of the outstanding activities of a school health program before briefly outlining the purpose and results of such a program, taking as little time as possible, with the hope that ensuing discussion may be full and free.

Annual physical examination of each pupil every other year, to include vision, hearing, nares, tongue, fauces, chest, posture, nutrition, immunity status, and any other defect presented in a cursory review.

Formal notice to the parent is given if the physical disqualifying defect is rendering the child uncomfortable, is progressive, or rendering him twenty-five per cent., or more, inefficient.

When possible, a school contact check is made in thirty days and if no attempt at correction has been made, home contacts with the parents by the nursing personnel is undertaken to interest the parent in such correction, through their physician, dentists or some welfare organization. A later check is made to determine if promised corrections have been done.

Selection of pupils and installation, through the superintendent of schools, of special classes, serving outstanding defects of vision, hearing, speech, nutrition, cardiac and types of nerve instability.

Pre-school examinations to detect physical defects and immunity status, working in close cooperation with the family physician and ethical, infant and child welfare organizations that these defects may be corrected before school entrance.

Selection and repeated weekly and monthly physical examinations of children in open window or preventorium rooms.

Some twenty speaking appearances before luncheon, Parent-Teacher and Mothers' Clubs throughout the year.

A physical examination every third month of all pupils who are failures in more than two subjects.

A contagion check for the full incubation period, of all pupils of any room where contact has occurred and home calls are made by the school physician or nurse on absentees of such rooms during incubation period.

Generalized health educational advice is given whenever appearing before small or large groups, touching diet, rest periods, play activities, posture, clothing and sleep periods. If special advice is needed, the child is referred to his family physician.

Some one has said, "To train the mind and neglect the body is to produce a cripple."

Good health and a sound body is the right of every child. For without a comfortable and healthful body the mind cannot expand, or receive educational advantages as rapidly as the child who is blessed with these advantages.

In Illinois, children are legally required to attend school not less than ten years. The mere fact of close assemblage immediately creates a health problem. Proper environment for school buildings and grounds should be the first consideration. The architecture of the building with reference to light, ventilation, heating and pupil capacity is equally important. All of the above requirements may have been met but are greatly discounted if there are in attendance either teachers or children whose physical condition is a menace.

To meet and solve the above problems, initiate and further, established points in a community program of health education is, I take it, the aim of the modern school physician toward a community health program.

Every proposed activity in a school health program should be appraised for its educational value before being put into practice. A review of the development of school health programs during the past ten years cannot but impress one that often it has been out of the hands of

*Read before Section on Public Health, Illinois State Medical Society, May 21, 1930.

sound educational guidance and all too frequently without judicious medical advice.

Medical service by the school should be only of a supervisory character and its medical and nursing personnel engaged only in educational activities along preventive lines. In our present social status the school is not primarily engaged in service and in my opinion, this attitude should hold particularly true in the Health and Hygiene Department, which should ever remain a system of inspection and education and not of treatment.

The class room teacher is the first to see the child and if suspicious of any abnormal condition, she refers the child to the school nurse, and if the trouble is any more than a minor one, the school physician passes on it, possibly excluding the child, notifying the parents of his diagnosis by a formal card, bearing a written request that the family physician be called in for diagnosis and treatment. If financially unable to employ a physician, the child is referred to the proper clinic or county physician. The nurse is never permitted to diagnose a case nor the school physician to prescribe for one. Parents, their physician and welfare organizations should assume responsibility for relief and medical treatment.

The primary object of exclusion is to prevent the spread of communicable diseases and one's actions here must be done timely and fearlessly —the high and the low, the rich and the poor, having the same treatment meted out to each. God pity the school physician who deviates one iota from the above, for it is certain that irate parents, will not. Proper disposition of all major communicable diseases is taken care of by the City Health Authorities, and as soon as quarantine is established the responsibility for the case and contacts passes out of the hands of the school physician. Cultures of all children in a room where a major communicable disease has occurred are taken only where contact seems to warrant or is otherwise deemed advisable. State Health Department "Rules and Regulations" must govern in the return to school of the case and contacts. The matter of exclusions and time spent from school becomes a very important consideration, as well as an economic problem. There can be no question that much of the taxpayers' money is saved due to the fact that health instruction and inspection reduces sickness, which acts to reduce absence, thereby preventing the repetition of grades, which automatically reduces the cost per pupil in educational activities.

Medical inspection or physical examination of children at school may be made a valuable educational feature. The term "inspection" is preferred in order to distinguish it from the comprehensive procedure which "examination" should convey. Lack of privacy and time, if for no other reason, makes the cursory, rapid-fire physical examination by the school physician, no more than an inspection. This is as it should be. Dependent on his professional back-ground, acquired skill and "approach," will his findings of abnormalities be verified by the family physician, specialist and dentist. It is not, and never should be the province of the school physician to make an exhaustive, painstaking physical examination of each school child. It is enough that he calls to the parents' attention his findings of abnormal conditions, with the formal request that he consult his family physician or dentist for a more complete examination and treatment. Although rapidly performed the skilled school physician in his inspection of the child before him frequently finds departures from the normal that had escaped the attention of the child, his parents, teacher and on rarer occasion, even the family physician himself. Physical inspections at school can be of only a "directing" character at best, somewhat like the examination of the admitting officer of a general hospital. They cannot be final in any sense. The educational value of the procedure is sensed by the child and parent alike and is of tremendous value in inculcating in their minds the necessity for periodic physical examination by their own medical advisors.

Finding physical disqualifying defects and their notice to the parents, although commendable, will avail nothing unless the remediable ones are corrected. Often this proves puzzling and dilatory, necessitating repeated follow-up home calls by the nurse or school physician who "sell" the idea of such corrections. In this connection the results of physical inspection and correction should be carried over into physical education and the child given those physical activities which are appropriate for him. The outstanding physical deficiencies, including the

vision cases having 20/70 or less vision, after the best possible refractive corrections have been made, the crippled child whose inquisitive test is normal or slightly lower, the deaf or progressive hard-of-hearing child and the larger group of children suffering chronically from anemia, malnutrition, adenitis, and especially those of this class who are known to be hylum cases or contacts of open tuberculosis should be segregated by forming special classes in suitably equipped rooms and under the tutelage of especially trained teaching personnel. Assumption of supervisory treatment, even in these groups may lead one far astray, imposing a problem of service which in our opinion, should be borne elsewhere.

More needs to be said about the health of teachers. Their personal health record should be known when their applications are considered. If it is not feasible to have them examined by a physician of the Board's selection before their employment, their contract should provide for such an examination soon after. The results of this examination should enter into consideration in a renewal of the contract. In no type of work is there any greater moral obligation to be in good health.

It is one of the prime functions of the school physician either by himself or through his organized department, to keep the public informed regarding the activities of his organization. This can best be done through the medium of the newspapers by describing in readable and understandable English those routine services which affect the family of the common citizens in their daily life. There is no universal prescription; individuality and personality will vary the presentation. Surprising as it may seem, speaking appearances before Parent Teachers' Organizations, Mothers Clubs and Allied Organizations do not seem to present the same favorable general reactions toward a public health program as is followed by the same type of effort in the news columns of your local newspapers. The school physician is never justified in sacrificing the accepted and proven facts of health for the sensational and startling portrayals of unproven and doubtful origin. He is most successful who can mix the dry language of the scientist with the highly colored portrayals of the modern commercial advertiser.

Another important function of the school physician is to keep the public informed concerning the prevalence of diseases and the possible influence of epidemics on the health of the local community. Health as a news feature has always received due consideration from the newspaper editor. The reader is especially interested in knowing the means of disease prevention and relief in time of epidemic.

It should be an objective of the school physician to stimulate health consciousness in the community so that by degrees the citizen automatically incorporates into his daily habits the practice of personal hygiene and secures for himself and his family the specific means of stimulating artificial protection against such diseases as diphtheria, typhoid fever, smallpox and scarlet fever. As previously stated, sensationalism should not be utilized at the expense of truth, but a modernistic tendency in the presentation of simple facts will do much to stimulate response from the layman. This type of educational program should be built on the best known scientific foundations. All material of a medical character used in such an educational program should, of course, have the approval of the properly organized medical society. There should be no tendency toward paternalism.

In closing, may I briefly suggest, that the control of contagion, the detection and correction of physical defects, important economic factors as they admittedly are, we feel, must assume a secondary role in favor of scientific health education, if we are to minimize or prevent these economic losses from occurring in the immediate future generation—a goal, not impossible of approximate fulfillment, challenging our best united efforts.

The principle of informative co-operation, rather than that of brusque authority should motivate the management of the school physician's department. The same spirit of cooperation should dominate his executive, supervisory and administrative practices and permeate all of his curricular and extra-curricular contacts and activities.

The carrying out of the plan involves class and home visitations, personal conferences and a sympathetic desire to serve faithfully and intelligently the hundreds or thousands of pupils representing a great variety of physical, mental

and social inheritances, ranging from the dull to the very superior. They exhibit a great variety of aptitudes, interests, capacities, and adaptabilities. They come from the homes of the poor, the moderately well-to-do and the rich. Some have careful guidance and proper supervision in the home and elsewhere; some have had none. They differ in race, color, tradition, outlook and in their resources of time, money and native ability. In short, it should be the aim of the school physician to provide a school environment in which under professional guidance, stimulus and control, the pupils will feel impelled to live healthy, happy and morally worthy lives. In such an environment we hope to encourage and guide them while they are growing toward physical, mental and social maturity and gaining some of the knowledge, attitudes and skills preparative to effective social living.

Administration Bldg.

DISCUSSION

Dr. F. A. Turner, Rockford: It seems like a waste of time almost to get up here and attempt to discuss such an excellent paper, one which covers practically every phase of the work so thoroughly as Dr. Crooks has covered in this paper. Yet I want to make just one or two references or discuss briefly one or two points brought out in his paper.

The first point I want to mention is one in regard to the school hygiene department being a department or system of inspection rather than one for treatment. We do treat first aid cases in school but we should not treat anything more, in my opinion, than first aid cases.

We are called upon many times to treat cases of injury that have occurred outside of school. On Monday morning I saw a boy in school who had fallen on Friday evening and injured his clavicle. He waited until Monday morning to come to school to see the nurse for a diagnosis. I happened to be in the school. So I sent him directly to his family physician. That is one reason why we should have a system of inspection and not of treatment. And I believe, too, in this, that vaccination against smallpox and toxin-antitoxin should not be included in the treatment. I don't think the school physician should do a vaccination either against smallpox or diphtheria. That should be left to the family physician.

Next, he spoke of the frequency of examinations, an annual examination or an examination every other year. Now, in our system, we begin with the kindergarten pupils, and then we take the first grade pupils, then skip to the fifth grade, so that the child who is in this school continuously gets his third examination by the time he reaches the fifth grade. From the fifth grade on we examine all pupils, particularly for their condition of heart, those that participate in swimming and athletics, and then we give a more thorough and complete physical examination for all pupils who participate in competitive athletics such as football, baseball, basketball, track work, etc. And, of course, all special cases that may be referred to us by the nurse, principal, teachers or other supervisors.

Now, as to the character of the examination, I don't believe Dr. Crooks mentioned that. That depends on what you are looking for. I have a questionnaire on my desk that I haven't turned in yet from the White House Child Health Committee. I don't know whether that is the right heading or not. Some of you may have received one. One of the questions in that questionnaire was, "How many pupils do you examine per hour? How many per day?" That is just like a machine that puts out so much piecework. Some days I examine perhaps ten pupils, depending on what I am looking for. If it is a more thorough physical examination, it takes more time; if I am testing hearts for swimming and hearts only, I have tested as high as 215 in one forenoon, but that's for one thing only. It depends altogether on what you want to do. How many do you do? I don't think you can answer that question how many you should have per hour or how many you should have per day. It is too much like a machine putting out piecework.

Now one thing more in regard to examinations. Dr. Crooks mentioned the teachers. We haven't gotten to the point yet where we are examining our teachers, and I don't believe that the school physician should examine the teachers. I think they should come with a certificate of health when they make application for a position to teach. The teacher's colleges throughout the country are instituting a course of health teaching and the teachers must teach health and they must come with a certificate of health when they come with their application.

So far as the other workers about the building are concerned, the janitors and the cafeteria workers, they should also be examined, I think, and I believe they should be examined by the school physician. We have started already this thing in our schools and we have gone through all of the janitors, given them a thorough physical examination, including the blood test, smears for gonococcus, and urine test, quite a complete examination, and that has been done also with the cafeteria workers, the women who are in the cafeteria and who handle the food that the children eat, and the men janitors who work around the buildings, in the lavatories, etc., where the children frequent.

Now, just one more point and I am through, and that is in regard to the pre-school examinations. I want to commend the State department for the course they are pursuing now in regard to pre-school examinations of children. We have just had two meetings in Rockford. It wasn't possible for me to be present at either one of those meetings, but they are advocating that these pre-school children be taken to the family physician for their examination and that is as it should be. I don't believe that the school physician should be any more concerned about the pre-school

examinations personally than he should a post-school examination. The medical profession for years has advocated periodic examinations and this is a good time to begin them. We are in favor of it. But we believe it is the family physician's duty to do it and not the school physician's.

Dr. Arlington Ailes, La Salle: This discussion has stimulated me to say something, this question of inspection vs. examination. Dr. Crooks called it a mere inspection. I think it approaches an examination. I think the school examiner, who is doing a lot of this work, when the children are stripped to the waist before him, gets a certain routine and a certain experience that enables him to do nearly a physicial examination. It does not quite equal the family physician's, because the mother cannot be present in our system of school work. But we do get a certain knowledge of the child, and the normal, the abnormal and the diseased. We get a knowledge at a glance of his eyes, ears, nose, throat, tonsils and teeth. Similarly we get a knowledge of his posture, thyroid, skin,—its color, texture, subcutaneous fat, and so forth. We get a knowledge of heart and lungs, which we can do rapidly; we take all these things in at a glance. So that I do believe that our work in the school approaches very closely a physical examination.

Now, the thing that stimulated me to discuss this was Dr. Turner's statement here regarding heart examinations. He said, "When I examine hearts, I do 200 in an hour."

Dr. Turner: No.

Dr. Ailes: In a morning?

Dr. Turner: In the whole forenoon.

Dr. Ailes: Well, I cannot do that. When I examine the hearts of athletic boys and girls and especially for swimming, then is when I slow down. We do not find our children dying in swimming pools because they have a valve leaking. These hearts are usually compensated and they react to mild strains, etc. What tests they need most are for the reserve power of their hearts and particularly as to whether they faint, have fits and things of that sort. I examine them at rest and then make them exercise, and listen to their hearts again. I examine their hearts once more after resting a minute, to see if they recover properly. This is important in the hearts of athletes.

As to first aid, we have a little tendency for children to come to school from homes with sores or slight injuries to be dressed, so that I have instructed our nurses in the schools to hold themselves strictly to first aid, namely, injuries that occur at school. We send them back to the parent for boils, etc.

Now, we have a little advantage, I think, over Dr. Crooks and the gentleman who discussed the paper, in that our school work and our health department is one. We not only examine them in school but we do the quarantining ourselves. Our nurses make the schools daily and little minor things that do not need much attention they take care of. We leave them in school or exclude them as the nurse deems best; if they think they should see them, they exclude them and leave a note for me on my desk and I see them in the afternoon. And oftentimes the trouble is merely a redness of the throat or something that cannot be diagnosed, and for which we ask the parent to keep them out of school a certain period of time. This gives them some chance to clear up these slight defects. If it is more serious, we will put on a quarantine, designating it as a suspicious case of this or that disease so that we can go back and check up. Very frequently I find a mild case of scarlet fever and we promptly place a quarantine while I am there. However, we usually urge the parents to call their doctor. We believe that in many, many cases of mild contagious disease the doctor is called as the result of the nurse's and my visits. Sometimes they call the doctor to try to get out of quarantine after we have placed the quarantine for a mild case of scarlet fever or other diseases.

I have an idea that this, what we might call intensive school work with the health officer following up these exclusions, has done a wonderful lot of good. For instance, I just wonder if diphtheria might not be susceptible to this form of school work. We have not had a case of diphtheria in 30,000 population for three and a half years, nor have we had a death in five years, and there has been practically no toxin-antitoxin given in our community. I do not have the courage to strongly advocate it, or put on a strenuous campaign for it in the face of no cases and no deaths for so long a period. I wonder if this separation of the pupils, this exclusion for various periods of time of suspected cases, might not have had an influence on diphtheria which it does not have on scarlet fever. We have had many, many cases of mild scarlet fever, but we have not had any diphtheria for the length of time I gave.

Dr. W. H. Smith, Benton: I think the biggest thing Dr. Crooks mentioned in his paper is this: the diagnosis and control of communicable diseases should be secondary to scientific health education. You can enlarge on that. I shall not take the time. I want to say that it must be pretty work for these city health officers where everything works lovely like it is greased.

I just want to give you a little experience of a district health superintendent. You talk about the teacher bringing a health certificate from some practicing physician, some family physician. Here is what happened down in Southern Illinois: a teacher in the school where a physician is president of the board of education, and as such president examined the teacher on complaint of others and diagnosed smallpox. He closes the school and quarantines this young woman. She deliberately walks out to a larger town or city where the city health officer is a physician and she gets a certificate of clean health from that city physician and also health officer, and another physician.

Another instance, where a doctor diagnosed a case of smallpox way out in the "sticks." The case was quarantined. The father of this young man is a preacher and he wants to go on preaching. He doesn't want to be in the "bull pen." So he gets on the train and goes

up to the county seat and he secures a certificate from two physicians and one of them is the health officer, who knew at this time that there were more than 75 known cases, in his own jurisdiction, of smallpox, but he gives this preacher, and induces another doctor to give him, a certificate stating that his son did not have smallpox. The sheriff was appealed to and a deputy sheriff sent out. Then I had a wire from Springfield to go down. That's the kind of mess we get into sometimes, and sometimes we get out with one black eye and sometimes with two.

Dr. Turner: In regard to these heart examinations, let me say if there is the slightest indication of any abnormal condition each child gets a special examination, when I am going over them, and there may be two or three or half a dozen youngsters that get a special examination, and that holds good in all other examinations when I find the slightest indication of some defect; then that child gets a more thorough examination.

Dr. A. A. Crooks, Peoria (in closing the discussion): First, I wish to thank the gentlemen present for their discussion. I purposely made this paper brief. I told you in the outset that if I attempted to go into this subject thoroughly it would take us around two hours to present it.

Now, the stumbling block seems to be first aid. It so happens that I was responsible for writing into the program of the city of Peoria practically all of the rules and regulations governing the health and hygiene department of the schools. And if there is any one particular feature in writing that program that I feel proudest of, it would be this: I incorporated into it the feature of getting the board of education to take out two blanket insurance policies, or indemnity policies, one covering the school children and one the personnel working for the school board. The rules and regulations run something like this: In the event of an accident occurring on the school grounds, that the principal, if he feels that the accident is serious enough to warrant the services of a physician, that he immediately get in touch with a physician of the child's choice; the family physician, in other words. If unable to secure the services of the family physican, then another legally qualified, reputable physician may be called. In other words, they may resort to the physicians' exchange and get anybody to respond. Unable to get any other legally qualified reputable physician, then the school physician comes in a third and bad last as a possibility of doing first aid work. It has worked miraculously well.

The school physician, may I tell you, has plenty of problems without going into the fields of remedial medicine or socializing the thing. I tried to tell you in my paper that we were educational, preventive and informative, and there we stopped. Anything that savored of remedial action was up to the family physician. In the event that the family is unable to secure the services of a physician—that is, if they are indigent—they are placed in the hands of some thoroughly qualified welfare organization for such help, either that or the county physician.

And may I dilate on this a moment? The principal is the only one that is permitted to do first aid work. I have repeated requests for first aid cabinets from this department and the other department. Maybe two or three in one grade school. But we are adamant in our refusal. We have only one person, and that would be the principal, who gives first aid and he is instructed at all times if, in his opinion, the accident is at all serious, to attempt no first aid whatsoever, except in the case of a bleeder to try and stanch the flow of blood until such time as the physician arrives. Now, we pay the doctor who makes that call, the first aid call. When I say we, the insurance company not only pays the bill, but we pay for the blanket policy covering such service. The same thing holds true with our personnel working for the school board, including the teachers, janitors and what not.

Now, about the annual examination of the teacher. I will put it another way. What shall we do about the health of the teacher? I tried to make myself very clear. One of the things I stated was that these teachers should be examined by some person authorized by the board of education, and certainly I don't believe that the school physician should be the one to make such a physicial examination. I wouldn't put a great many hindrances in the path of such procedure, but so far as I have been able to bring it about, it is well understood by the school board that some other outside physician should best make such examination.

Now, as to the examination of these children—and I was glad to get the reactions that I did—the program varies greatly over the United States, the amount of time and the repeated efforts in the physical examination, or inspection, if you will, of the child.

Some schools, and that is particularly true of our larger cities with a million in population and up, require an annual physical examination or inspection of any school child. I think it a very worthy thing to do. I am striving toward that end in the city of Peoria today. I haven't the personnel to put that over as yet, but I hope to. And yet there is a lurking fear in the back of my head that possibly it is not just as good as it might seem on the surface, for this reason: A physical examination, after all, as I tried to tell you in the paper, is merely educational. First, to find a physical defect if any exists. But secondarily, to get the people educated to the necessity of an annual or semi-annual check-up, as the case may be, by their own family physician or dentist. And I am wondering if an annual physical check-up, where the parents look forward to that as a routine annual measure by the school physician, wouldn't kill to some extent the necessity in their mind of going to their family physician for such service.

As to the examination of those engaging in athletics, Dr. Turner's point was well taken. Of course, in any well organized school program, those children who are taking part in athletics, particularly competitive athletics, not only once a year but at the beginning of

each athletic season of baseball, basketball and football, should have a rather thorough-going examination, to detect any possible heart or other physically disqualifying defect.

Now, about the pre-school examination, a good deal has been said. I don't know that we are going to decide that point this morning. When I mention pre-school examination, I am not taking into account the infant welfare organization; not at all. I am merely including in that program the kindergarten child which is *per se* and primarily a school child. He is included in our school system as a school child the same as our first grader, and over whom I have jurisdiction, just the same as I would have over a child in any primary or high school grade. It is commendable that we are getting more and more corrective results from the activities of lay organizations in the pre-school group than was deemed possible only a short few years ago.

I thank you for the discussion.

THE CURRENT MENACES OF THE MEDICAL PROFESSION*

CHARLES J. WHALEN, M. D., LL. B.

CHICAGO

As insidious and deadly as a cancer on the vitals, is the steady growth of a persistent bureaucracy, invading malignantly the sacred domain of those principles of individual integrity and personal liberty upon which the United States was founded as a democracy and through which it has flourished far beyond the dreams of its founders.

The fattest lamb is sought by the wolf. It is inevitable that false leaders with vicious sophistries shall attempt to wreak their will against a system of individual independence that has proven itself to be the most fair and acceptable form of man-made government as yet devised. A form of government, or group control, that while permitting the largest amount of individual freedom has yet conserved to the greatest extent the freedom of others, and the community rights, would seem by all logic to boast those elements meriting meticulous husbanding and fundamental protection.

Yet as Patrick Henry said so memorably: "Eternal vigilance is the price of liberty."

Lulled into a false security by a national richness of personal life and an opulent civilization, the enemy to this beautifully developing state of altruistic existence has crept within the walls. Some of the sentries have slept at their posts. And while these have slumbered the scientific practice of medicine has been turned into the wooden horse to hold the enemy and bear them within.

Gradually on all sides comes partial awakening to the fact that the scientific, accurate practice of the healing art is usurped by legislation; by lay dictation, and by misguided though perhaps well intentioned distribution of great wealth through ambitious philanthropists and heavily endowed foundations. As slowly but as surely as the raising and lowering of the Gatun locks, *the practice of medicine by trained minds and skilled hands of graduate physicians is being taken over by lay persons and by the political units that function in state government.*

If only the health of the nation, and per sequitur, its wealth were threatened by these procedures, the situation though pitiable would not be irremediable. Unfortunately the entire structure of the state is menaced by those very activities that now threaten both medical progress and medical adequacy.

Time brings education and civilization. All three effect expected and natural though not always beneficial nor even commendable changes. Neither church nor medicine should be allied with the state, nor under state control, yet the mechanics of both entities must possess sufficient flexibility for adaptation to the changing times. For such changes no criticism is maintained by any thinking individual. Not the change that abets but the change that destroys is to be feared or evaded.

A different system of medical education and a different system of caring for the sick is even now in process of evolution. Some way must be found that will enable the great middle class to secure at prices within its income the same excellent medical care and nursing service available now for the very rich or the very poor. This way, however, must be other than by methods of pauperization of the great middle class; of reduction of its self-respect, and of destruction of that personal reliance and independence upon which is set the very corner stone of the nation.

This attempt at pauperization and debauchery of the class of Americans that is at once the backbone and the brain as well as the heart of the nation, is the latest step in the crusade of the bureaucrats whose ultimate effect will be the

*Address before the Wayne County (Detroit) Medical Society, December, 1929.

socialization and the downfall of the United States. In this system of state medicine that it is planned to inflict upon the country, and that already has a firm foothold within the portals of the white house, the shadow of the soviet displays decided substance. Rebellion ruled Russia wept that the brutality of the chekka ran redder than that of the Romanoffs. First fell the church, then the sanctity of home, of marriage and of personal honor. In the land of the czars today there drags out an army of adolescent beings, "wild children," diseased, ignorant, ill-fed, unhoused, unclean, to bear testimony to the deviltry of the infamous Kollontai teachings, of which not only the finger-hold but the solid hand-grasp is to be found this very day and hour in the Bureau of Children in the Department of Labor of the United States, teaching that abortion should be as available to any woman as a new bonnet, and marriage and divorce a matter of no more moment than choosing a summer resort or a change of hair dye. Not bluntly, as stated here, do those tenets flare forth. Rather as in the case of the warriors within the wooden horse, they creep in masked and disguised. But the sword while in the scabbard is none the less a sword.

State medicine, ambassador plenipotentiary of world wide socialism, must have a house in which to dwell, a general headquarters from which to work. *So for itself it builds a bureaucracy and sets to laboring all the dreamers and theorists, especially the semi-idle rich with no assets save their wealth, and no occupation save to spend these riches, or to indulge their sated emotions.*

From such an embryo has emanated plagues too prolific and too pestilential for endurance. Cited approximately and in blanket grouping these include the eighteenth amendment, the Harrison Drug and Narcotic act, the Sheppard-Towner act, the practice of medicine by corporations, universities and endowed foundations; lay interference in the practice of medicine; lay attempts at the practice of medicine; the over-priced and over-confident and ever-usurping trained nurse; so-called "health insurance" and "maternity provisions;" the dearth of adequate nursing service of a practical nature at a practical price; the pay clinic; encroachment of medical privilege by political job-holders, and, *saddest of all, the extinction by economic pressure of the inestimably valuable general practitioner, coupled with a general standardization of the practice of medicine.*

Apart from the theft of personal privilege and independent rights from physicians as citizens and from medicine as a learned profession and as such certainly amenable to the same liberal rights of existence as is granted all business endeavors from the wholesale dry goods merchant to the humblest fishmonger, this state of affairs betokens only ill for the country. Unless the state of medical economics changes almost at once the *next two generations will find themselves facing a dearth of competent medical service and a reduction of both national health and wealth.* The United States is admittedly the medical center of the world. Persons living in this country have the best medical service at the lowest rates. The panel system knocked to bits medical service in England and in Germany. Even with the burden of the panel system on their shoulders neither the doctors of Great Britain nor Germany have had to practice medicine with such an old man of the sea on their backs as the doctors of the United States carry in the Volstead Act, the Harrison Act, and the aborted, thank God, Sheppard-Towner Act. To be sure, protagonists of socialistic maternity legislation have been trying through various bills to revive the Sheppard-Towner error.

The first crime against medicine permits Congress, in which there sit few if any physicians, to tell the medical men of the country what remedies and when and how quantitively shall be prescribed for the sick and ailing. The Harrison Act does the same thing only a little more effectively. The Sheppard-Towner Act, along with other maternity legislation, was not responsible either directly or even indirectly for saving the lives of a dozen children, even though some $8,000,000 of Federal money —taxpayers' money—went annually into the carrying out of this act. Of course, thousands of political appointees had out of this money some fine fat jobs and toured the country in automobiles instead of sitting at home doing a hard day's work at some more menial task. Nor is this maternity legislation the only thorn in the road. All sorts of ignorant but supposed welfaring legislators and political job holders trip up scientific physicians in matters of muni-

cipal and communal sanitation and prophylaxis and general care of the sick. But perhaps the worst menace of all is *the man or group of men of wealth who endow everything in the world connected with the practice of medicine except the physician upon whose moral integrity and professional skill rests all the responsibility.*

The modern world expects of the physician that he must be a watch dog against disease, and yet keep at his vigil without any provision for food or shelter. It is so developing that not only can a physician not act as mentor of his own existence but even societies of medical men are under pain of accepting dictation from other businss groups. The medical fraternity seems to be the only group of business men against which the boycott can be used with impunity. Even his own kind grown wealthy and waxing fat will play the doctor, Brutus. University after university is taking up the practice of medicine in competition with its own alumni. Scores of newly endowed foundations are increasing the amount of the fixed minimum income at which citizens of the United States are entitled to receive free or partly free medical and surgical attention. Especially does this apply to obstetrical work, though oddly enough this beneficence in maternity cases does not extend into the realms of food, shelter or clothing.

Still another deadly fungus is the mushroom growth of a superfluous number of specialists. Some specialists are necessary and are indicated. But the modern specialist too frequently mounts this pedestal before he has done anything else. Only a thoroughly trained general practitioner has a right to know when to specialize.

Since medicine is the mouthpiece and the handmaid of the healing art it is not within the province of medicine to bewail an ill but rather to set work to diagnose and to cure.

The present economic and scientific situation in the medical profession would seem to call for drastic therapy and ruthless surgery.

The keen sharp blade of reason *demands an immediate severing of medical dependence from state supervision* and a removal of all political adhesions. With this good job well done,—and it is surprising what a tremendous amount of legislative repeal and amendment and political job-shifting will be called for,—the profession will at least be enabled to stand upon its own feet. The next step must be a rousing good purging of the profession of the enemies within. Men who have made vast personal fortunes and gained wide personal exploitation at the expense of the confraternity are traitors and vitiating and toxic influences and should be swept out. This done, *the cleansed medical body must knit itself together anew and tackle the problem of life, ethics and service.*

This knitting can be done best by a system of organization so perfect that it will match that of political forces. Politics has medicine by the throat and nothing deals with politics like the methods of Hahnemann. When the medical profession can show politics that it has a ballot box influence then and then only will the medical profession, its necessities or its rights, have a particle of standing with politicians and with big business. Until then medicine will have to take what it can get. Right along the medical profession has been getting plenty of what nobody wants and of what nobody else would have. Not even interstate commerce laws, nor pure food legislation puts the restriction and the ban upon business as some of the national and state laws hamper medicine. In the university-practicing medicine ramification there is a situation worse than if the factory opened chain stores in the same block with the retail merchant and expected him to survive. For in the one only a matter of money profit and individual existence is involved. In the other the question is that of community welfare and public health.

Figures compiled for the years 1925-1927 show that in sixteen states that had the Sheppard-Towner Act to face, maternal and infant mortality was not reduced proportionately to the decrease in the five states that did not cooperate. Illinois, Connecticut, Kansas, Maine and Massachusetts, commonwealths that did not function under the Sheppard-Towner Act, had the greatest decrease in infant and maternal rates.

The Achilles heel of the medical situation today from the standpoint of the fraternity is the high cost of medical education. Plans are now under discussion where a man need not use up so much of his youth and so much of his wage earning credit power in preparation for the simpler branches of medical practice. As it is now it costs about $30,000 and a man will be at least

27 years old before he is able to hang out his shingle. Without reducing professional competency some shift must be made to lower initial educational cost.

This, however, can not come from any system of state medicine as yet invented. State medicine is like mercy on a reverse reel. It pauperizes those who give and those who take. It is iniquitous, non-American, specious and without merit or excuse. Rotten to the core in its begetting and its inspiration, if ever the veil is torn squarely aside from its sanctuaries, practical Americans will find themselves confronting a scandal such as will leave the Teapot Dome trouble nothing but a mirage on the landscape.

The worst of it is that these poor reformers think in their hearts that they are doing something. They are, but not what they think they are doing. Their efforts instead of being constructive are an insidious but lethal destructive force.

In addition to the lack of organization among the profession and a laissez-faire attitude towards fraternal defenses, count must be made of the lack of human interest displayed by many physicians in trivial ills that literally clear the way for those hordes of charlatans and quacks that offer a spring board for state medicine's installation. The chiropractor and the rest of the fakes have always an open empty ear for patient's troubles and they wind up with filled palms and purses and an ever steady visitor willing to pay. The physician's conscience refuses to let him take money like that. He may not feel like encouraging an illusion of illness, but what he does need to know is how to get the psychological hold on his patient, called "the art of medicine," in which the quack specializes. Both "get the money" and "get the patient" is the quack's ideal of ethics.

With the honest physician this ideal is get the patient and cure the disease. But you can't catch a fish by striking it over the head. He has to be baited. And it requires the practical application of this art of medicine to learn enough about a man to find out really what is the matter with him. Which is why the University of California, of Wisconsin and Harvard University Medical School eye with favor a modified revival of the ante-medical college idea of apprenticing medical students to practicing medical men. This would seem to be an initial and commendable effort to re-establish that human relationship between physician and patient that has become submerged in the flood of specialization upon which has floated into the public confidence the flotsam and jetsam of economic iniquities masquerading as philanthropist and humanities. Those iniquities have knocked from under the very foundations of understanding and confidential relationship between doctor and patient. They have laid open the gullible laity to all sorts of socialistic, incompetent and unethical schemes, and a standardized product of medicine functioning with a machine-like uniformity that not only loses sight of the very essence of efficient medical practice but actually works towards the destruction of such fundamental competency. *Mass treatment of the sick is an impossibility and an error of a grievous, unethical, in fact almost criminal nature.* Nor is a medical mistake a mistake capable of rectification. *Corporations are and can be everything but human. A corporation has neither a conscience to guide, a body to kick nor a soul to save. When medicine becomes corporate, medicine becomes a corpse.*

The United States of America is well on its way to that state of affairs that precipitated the French Revolution. We are now beset by more laws and laws about laws than was even pre-war Europe. Unless this present tendency is checked the whirlwind sowed will become the whirlwind reaped. *Already state medicine sits enthroned in some guise or other in every state in the Union.*

Briefly epitomized the essentials of state medicine are:

1. Complete control of the medical organization, and profession by the Federal government with every man in the organization on a salary basis.

2. Control of all medical schools by a Federal Medical Education Bureau. Medical students receiving tuition and maintenance free, and medical research controlled by the medical research bureau.

3. Government control of hospitals and greater emphasis laid on the hospital training of students.

4. Abolition of the private office of physi-

cians, and establishment of a clinical group of specialists.

5. Uniform distribution of work and adequate medical attention regardless of means for every resident of the United States.

It will be observed that in such a fantastic and impossible would-be Utopia, all personal choice of a physician is denied the patient. It means medical practice politicalized. And the opposition of the American Medical Association to this form of medical practice is based upon a visioning of the ultimate harm that will come to the public weal through such form of medical practice, and with the practice of medicine handicapped, hampered, controlled or interfered with by political organizations supported by taxation or individuals thus empowered, except of course the service provided for the Army and Navy and the prophylactic Public Health Service.

This tendency to paternalism, working with medicine as its mouthpiece, has been characterized by the Hon. James Reed, once Senator from Missouri as "A saturnalia of federal law-making," and contempt for the maxim "that people is best governed which is governed least" and a burial of this adage under a mass of statutes seeking to control, regulate or coerce almost every activity of man at a staggering price to the taxpayers of a useless force of inadequate enforcement officers."

In addition to bleeding the country dry to make it miserable, the emissaries of the new paternalism being forced down the throats of the American people are naive in their extension of power. Daily through these efforts the cost of government becomes more unbearable. So far back as 1922, Senator Stanley in the United States Senate announced that there were 15,000,000 pensioners on the public bounty or a tax eater on the back of every two tax producers in the United States, a number that has increased every year at an alarming rate. *"Too many functions of local and state governments," said Mr. Stanley, "and also of the courts are controlled by hidden bureaus in Washington. There is more power exercised to-day in these marble sarcophagi, by unknown experts, politically controlled appointees of whispering propaganda than by the courts themselves."*

Five years ago the late President Eliot of Harvard University in deploring this tendency remarked, *"The new blight affecting education and industries in the United States is standardization."*

This practice of putting large discretionary powers at the disposal of political authorities has run wild without a curb. This tendency to assert authority is nowhere more rampant than in the *statute backed attempts to control the practice of medicine.* Unfortunately medical men do not see the trend of affairs. *Not only is state medicine at the door, and the encroaching pay clinic making its inroad upon individual liberty and progress, but with state medicine comes the greatest socialistic attack ever made upon this democracy.* In 1926, there were introduced 93,000 new laws, practically all of which tended to give the American people a mess of pottage for their inalienable birthright of personal liberty. *"Please pass a law" has become the national idea of a panacea for all economic ills. To repeal rather than to make new laws should be the idea of the hour. And among the first laws to be repealed should be those that make a martyr out of the practice of medicine by delivering this sacred science into the hands of the ignorant laity. No less a statesman than Calvin Coolidge says, "Unless bureaucracy is constantly resisted it breaks down representative government and overwhelms democracy. Of all forms of government those administered by bureaus are about the least satisfactory to an enlightened and progressive people."*

The Committee on American citizenship of the American Bar Association went on record with the report that "The old virile spirit of the American citizen is waning to extinction. The American citizen is being pauperized by government alms. *The time is coming when through overcentralization in Washington, the bill of rights will become a mere scrap of paper, and this government will come as all other democracies have come, to be a mere centralized despotism."*

Why should such opinions be cited as the current menaces of the medical profession?

BECAUSE MEDICINE IS BEING USED AS THE CATSPAW TO PULL THE CHESTNUTS OUT OF THE FIRE FOR THE SOCIALISTS AND COMMUNISTS OF THE WORLD.

The Russian wheat scandal is nothing to the

attacks on democracy—not soviet tyranny—that the socialists are attempting to perpetrate through the debauching by legislative enslavement of the practice of medicine.

America is the stronghold of civilization. With America communized the world chaos that is the heart's desire of the red element would be an assured thing. *And it is through specious sophistries of economic relief, to be worked in some magical way through the destruction of the medical profession and its progress, that the wedge is being driven home.*

Why pick on medicine? Why not the steel or textile industries? Or shoes, plumbing, groceries, hay and feed, stone, brick or mortar? Ay, there's the rub. The human element in medicine with its cortical appeal to the emotions and to those elements in life that money cannot purchase nor barter and exchange touch, *makes this branch of civilized life the weakest as well as the strongest link.* Socialism and the church openly at sword's points afford no break in the defense. The law is too cold-blooded, too logical to brook the siren call of "help humanity." Medicine then is the logical and the inevitable port of entry, and medicine, God save the mark, has been only too gullible. *Mock economic measures have blinded the eyes of the profession as a whole, and almost to a man.*

"A law by which an unschooled legislature dictates to the science of medicine and takes from a scholar his brains cannot be in consonance with liberty." Yet look at the quantity of such statutes on the books today. John Stuart Mill wrote, "Liberty is limitation on power. Wherever a limitation set by the people for the restraint of government is removed, their liberty is lost." Wrote Lord Acton, "By Liberty I mean the assurance that every man shall be protected in doing what he believes is his duty against the influence of authority and majority, custom and opinion."

Medicine has not only lost its liberty but it has been delivered unto a body of lawmakers, ruthlessly stripped of the powers which gave it its inherent value. As a result *everybody but the doctor seems to know and to presume all about "doctoring." Openly and covertly, nationally organized forces are at work to abridge the functions and usefulness of the medical profession.* Their participation in politics and their assault on the scientific value of modern medicine is undoubtedly the greatest menace confronting the American people as well as medicine because in this is involved both natural rights and constitutional guarantees, the violation of which strikes at the very foundation of national security.

Now diagnosis is the first element to be considered in the handling of a plague. Further, correct diagnosis is more than half the cure. When the medical profession realizes what a catspaw is being made of its science, its traditions and its tenets, then the medical profession will take seriously to heart this diagnosis.

From the findings that have been outlined here, technic and procedure would seem to indicate numerous obvious measures. *First, organization on the part of the medical profession, for no axiom ever held through the years with more tenacity, or greater adequacy than that in "Union there is strength."*

Since the advances of socialization and the infliction of standardization are being effected by statute, then only by statute can this menace be removed. Fire must be fought with fire. And no one doctor, no one medical group or medical society can fight the menacing influences organized to the nth degree and effecting as much that is dire by insidious as by open methods. This indicated warfare calls for mass action. It calls for an organized medical strength, a medical strength that shall stoop to conquer and in the stooping make use of those same efficient, organized measures as is developing the paternalistic, bureaucratic and socialist bloc into a greater power than the individual votes of tax-paying, law-abiding, wage earning citizens who make up the far greater majority of our people.

Now the way to this organization must come from the individual. It means that each physician of ethical standards must liberally put his hand to the plow. *He cannot sit back and think that medicine by divine right of science can take care of itself.* It means that the individual physician must look to his community medical society,—a branch of the county, state and national organization,—as a sword with which to devastate the menace of lay and political organizations. It means a banding together to use the ballot box as a weapon to drive home the fact that medical men are not a group of

blind fogies penned in laboratories, wrapped round with theories, but men who are alert to the changing times, the various humanities, and, above all, economic entities that have the same rights from a civic standpoint as the man who vends vegetables, sells living commodities or provides shelter or transportation.

Further, not only is medicine a daily necessity that should be as safeguarded as is the vested right and dignity of finance and commerce but its administrators deserve the same consideration at the hands of the public as is granted the administrators of law, religion, the church, the state and trade. Medicine, secure in its dignity and in its inherent virtue, has bestowed upon those whom it serves the grace of the same fine consideration as it has extended. In this, medicine has erred. It is still impossible to put a quart of milk into a pint cup. The general public has so drifted away from even a partial comprehension of the service medicine dispenses as to have lost sight of the needs of medicine and of the tithe that is Caesar's. From this has arisen one of the secondary ills that is the matter with medicine today. Education and education alone extended with all patience is the remedy indicated here.

In no place is the need for such education greater than among the ranks of the philanthropically inclined wealthy men, who are endowing on every hand foundations calculated to socialize medcine, though such socialization is masked by what seems to be humanitarian ideas on the part of these philanthropic rich. Blinded by the dazzling altruism that they have been persuaded to believe they are participating in, these men are unable to see the holocaust they are kindling. *With medicine socialized, the fires will not stop but will spread until they cannot be stopped.* Medicine gone socialistic, what will follow? *Trade will be caught up in the conflagration. Industry after industry will be doling out its wares without compensation, and every trade and every profession will be hoist by the same petard.* Socialism, like syphilis, is the same, no matter what euphemistic title be bestowed. *Those men who have no scruples about socializing the other fellow's trade, industry or profession should remember that bread cast upon the waters usually returns.* And mouldy bread is not a pleasant come-back. The swing of the pendulum will bring back this socialization stunt and the query propounded to these gentlemen who socialize medicine with gusto should be, "What are you going to do when socialism gets you?"

Gentlemen, too much paternalism in a mask is the vital ailment of the medical profession today. Cincinnatus at his plowe had no greater task before him than you have to head off the numerous menaces to scientific medical progress and economic stability. The thing to do for the sake of yourselves, your science, your profession, your public, and your patriotism is to get out and fight and conquer.

25 East Washington St.

DOMESTIC MECHANICAL REFRIGERATION IN RELATION TO PUBLIC HEALTH*

ARNOLD H. KEGEL, M. D.
Commissioner of Health
CHICAGO

The growing and very real need of effective refrigeration for the purpose of preserving foods and other perishable materials has led to the development of mechanical refrigeration as an improved and more economical substitute for older and less efficient methods. The evolution of the mechanical features of these devices has been unusually rapid especially in the types used for domestic purposes, most of which at present depend on the principle of alternate expansion and compression of fluid substances.

Unfortunately, however, in the search for new and more economical chemicals to meet the demands of the industry, the possible health hazards involved in their general use have often been ignored.

In the City of Chicago, during the latter part of 1928 and throughout 1929, a series of mysterious intoxications occurred, which in most cases were at first considered food poisonings but which finally aroused suspicion against the gases used in mechanical refrigeration. That these refrigerant gases were the true source of the trouble was verified by subsequent clinical and laboratory studies made by the Health Department. Sixty-two cases of poisoning and 10 deaths were found to have been caused by an escaping refrigerant gas known as methyl chloride.

*Read before Illinois State Medical Meeting, Section on Public Health and Hygiene, May 22, 1930.

The principle upon which this type of mechanical refrigeration depends is the dissipation of heat by compression of a gas to a liquid state, and the absorption of heat by expansion of the compressed liquid to a gas in an enclosed chamber called an "evaporator."

Two forms of mechanical refrigeration are in general use for domestic purposes: the single unit type in which the compressor and evaporator are incorporated in each individual cooling cabinet, and the multiple type in which the compressing apparatus is installed at a central point, usually in the basement, from which the liquid is conducted through pipes to a number of cooling cabinets throughout the building.

As yet no serious casualties have been traced to the single unit type in Chicago, but all have occurred in connection with multiple systems using methyl chloride. The single unit seldom requires more than five pounds of gas altogether, while the multiple system may utilize 200 or more pounds of gas. Thus, a leak occurring in an apartment connected with a multiple system may subject the apartment to a flood of gas, lasting until practically the entire fluid contents of the system are discharged.

The gases used in mechanical refrigeration are of two groups: 1, the irritant group, in which are included ammonia and sulphur dioxide, and 2. the anesthetic group, of which the commoner are methyl chloride and ethyl chloride. Experience has shown that when gases of the highly irritant type are released in an apartment under ordinary circumstances, the occupants are warned in time to escape, though the potential danger of overwhelming concentrations must be considered. On the other hand, gases of the anesthetic group do not generally give warning of their presence and hence may cause unconsciousness and even death on prolonged exposure. These latter gases are generally odorless and not easily detected in small amounts. It is admitted that all refrigerants heretofore used in mechanical refrigerating systems are of poisonous nature, so the necessity of proper regulation to establish safe practice in the installation of mechanical refrigeration is apparent.

The refrigeration industry realizes that domestic refrigeration cannot attain its full possibilities unless it can guarantee a safe as well as efficient installation. To obtain such safe installation it is highly important that all systems be properly inspected before actually put into use. This inspection should be made with the ultimate object of preventing the refrigerant gas from escaping into the living quarters.

With regard to the location of leaks, 49 cases investigated by the Chicago Department of Health yielded the following percentages:

In and around the evaporator	68%
In and around the compressor	20%
In the piping system	6%
In other locations	6%
	100%

In the cases where deaths occurred, the leaks were all found in and around the evaporator, including the pipes leading to and from the evaporator as far as the wall connections. It was also found that failure to anchor the refrigerator cabinet was often a factor in producing leaks.

The refrigerating system should be constructed in such a manner that the necessary pressure tests to detect leaks can be readily applied and with the least inconvenience to the occupants. All poisonous or toxic refrigerant gases used in any "direct indirect" systems of refrigeration should have a distinct and easily recognizable odor or characteristic irritating properties in the minimum concentration in air at which they are poisonous to experimental animals, after at least 12 hours' exposure.

The evaporator should be of heavy metal with welded joints to prevent damage by the use of ice picks. The compressor should be placed in an uninhabited part of the building, and the room containing the compressor should have tight walls, with no communication to other parts of the building, and ventilated to the outside.

The foregoing suggestions are some of the essentials of safe installation and are directed toward the reduction of health hazards. All refrigerating plants circulating substances of a poisonous nature should be inspected regularly to safeguard public health, and their manufacture and sale should be regulated. The requirements should be sufficiently flexible to encourage improvement and development of apparatus rather than restrict it, to the end that it may be made as simple, efficient and economical of operation as is consistent with public safety.

DISCUSSION

Mr. Joel I. Connolly, Chicago: The importance of proper control over health aspects of mechanical refrigeration in the home should be particularly emphasized. Dr. Kegel has pointed out that ten deaths occurred in Chicago within the period of one year from methyl chloride poisoning due to leaks in multiple refrigerating systems. Relatively few people, in comparison with the total population of the city, are exposed to this danger, so the death rate is much higher among those so exposed, than would be the case with ten deaths from disease in this city.

Even the irritant types of gaseous refrigerants are not harmless, as might perhaps be erroneously inferred from a hasty reading of Dr. Kegel's reference to them, for people have been overcome and, except for heroic rescues followed by use of artificial respiration, more deaths unquestionably would have occurred. It has not been possible to obtain a complete record of all poisonings and of all people who have been overcome by refrigerant gases in Chicago, but they are estimated conservatively to number about three hundred. Not infrequently whole families have been overcome and have been rescued by neighbors, police or firemen, and numerous cases have occurred where all the occupants of large apartment buildings, comprising many families, have been driven out of their homes in the dead of night, often with no clothing other than their nightdresses or pajamas.

The use of an irritant detector gas mixed with one of the anesthetic type has been found to be ineffective upon one recent occasion.

Many times the question is asked, "Why has this trouble occurred in Chicago more than elsewhere?"

The answer lies in the fact that Chicago is the only city having large numbers of huge machines holding great quantities of refrigerants, located in dwelling places. New York and Chicago are the only cities having many large apartment buildings where it might be possible to use enormous multiple systems equipped with scores or hundreds of evaporators to serve as many apartments. Such systems have not been permitted above the first floor in New York under the fire ordinance. In Chicago there was no such fire regulation, so the local refrigeration interests naturally gravitated to the use of the less expensive multiple type of system instead of to the more costly single unit type. All of the deaths and most of the accidents have resulted from leaks in the multiple systems, so control measures of necessity must be directed chiefly towards making this type safe, which usually means also making multiple systems somewhat more expensive. Because the Chicago domestic refrigeration industry is based almost entirely upon the large multiple system, any ordinance to control such refrigeration is opposed by the local representatives on the ground that Chicago interests would be sacrificed to those of outsiders by its enactment. The delay in passing a control ordinance in Chicago may be ascribed in part to this state of affairs, and it is safe to say that with things as they are, a continuation of accidents must be expected until proper control is exercised.

In closing, I wish to say that Dr. Kegel, the author of this paper, has been the foremost exponent of safety for health in mechanical refrigeration and although the desired action upon an ordinance proposed by him is still lagging in Chicago, due to the peculiar conditions I have just mentioned, other cities, notably Washington, D. C., have followed his advice and adopted ordinances embodying his ideas. I wish to congratulate the Illinois State Medical Society upon securing a paper upon this timely and important subject from the one man who has done more than any one else to make domestic refrigeration safe throughout America.

Dr. Charles H. Miller, Chicago: I would like to state a word relative to the symptomatology of the poisoning by methyl chloride. It came under my observation early in these poisoning cases in Chicago. While this has related to the danger to the inhabitants of domestic domiciles, that is not the only place where poisoning has occurred. In fact, the first case that came under my observation was one of the operators in the manufacture of this refrigerating apparatus. A young man was an employe among a number of others in whom ultimately some half dozen cases of poisoning occurred, in the manufacture of these pieces of apparatus.

Now, this young man, about 20 years of age, gave a history of gradually losing his normal strength and vitality. He said: "I would go to work in the morning all right but along towards evening I would become excessively weary, out of all proportion to what I had been doing, and when I would get home it would just seem as though I couldn't do anything but sit down in a chair. I could no longer go." He emphasized another symptom of disturbance of his vision. He wore glasses for some refractive error. He said, "Sometimes I can see and at other times I can't."

Then his mother with whom he made his home added to his symptomatology, and it was to the effect that at times he wasn't quite rational, that he was just a little bit irrational. He kept on working and finally he got to a point where he couldn't work. Now up to this time is was scouted by his employers, the manufacturers of this particular mechanism, all of whom have been for a long time clients of mine; they couldn't believe that that had a thing to do with it, though it was considered. Nobody knew what the symptoms were. This boy got so bad that we took him to the hospital and I had a celebrated neurologist see him and he missed the nature of the case entirely. This boy in the hospital days after he laid off from work would rise in the night and be so disoriented that the nurse would find him crawling around under the bed looking for something that he imagined was there. It took that boy three months to recover from repeated slight multiple exposures to this methyl chloride.

Later I came to some of these other cases in the same place and then the employers were so well informed as to the symptomatology that there was no question in their minds that that was the cause.

Then in these cases of central refrigerating units I had this experience: I was called early in the morning to a home consisting of a five-room apartment with a husband, wife and four children, all relatively small children. The whole family were made ill, acutely ill, through an escape of the gas in their refrigerator. That somethinig was wrong was detected as early as three or four o'clock in the morning; the mother was violently ill, with nausea and vomiting, the children the same way; and the husband got up, and they wandered around in their apartment and they couldn't understand why they were all sick. And it was not until daylight, perhaps three hours later, that the source of the escaping gas was detected by opening the refrigerator. These individuals with a single exposure to a single poison were not disoriented at all. They recovered in a short time from this acute gastrointestinal irritant poison.

But the repeated exposure to this produces a symptom complex which fooled a very good neurologist in Chicago because he had never seen a case like it.

THE WORK OF THE SCHOOL TUBERCULOSIS PHYSICIAN IN CHICAGO

FREDERICK LEAVITT, M. D.
CHICAGO

The following statements are based on the extensive observations of many eminent writers: The child is born free from tuberculosis. From 50 to 100 per cent of all civilized people acquire tuberculosis. The young are most susceptible (33.33 per cent having acquired the disease by the time they are two years old). The younger the individual to become infected, the more likely is he to succumb to the disease.

In the child lies the hope of the future. One might go further and say that in the unborn child lies the hope of the future. But inasmuch as prenatal influence, other than that of heredity, is doubtful, we shall be content to consider the child only after he is born, as he comes to the school physician for physical appraisal, his tendencies and proclivities left out of the question. It may be the first time a doctor has seen him. When he arrived in this "blue heaven" of ours a midwife, perchance, started him in life with a smart slap, which is as far as he has gone in the mysteries of the healing art, except, perhaps, to have swallowed a dose or two of castor oil or to have had his chest anointed with goose grease. We now go over him to see how nearly he comes to the standards laid down for a child of five or six years of age.

Poor kid! In some ways, he is to be pitied. He must sometimes wonder what it is all about. Father, mother, grandparents, uncles, aunts, all take a hand in his development. Indeed, no one appears to lose an opportunity to say or do something for his best good, always of course with the kindliest of intentions. I often marvel at his invulnerability. "Doesn't it make the child feel bad," I once asked a physician, "to speak harshly to him?" "Oh, no," replied the doctor. "He's used to it." After all, it may be the only way to get under the boy's skin—to flay him. We scratch him pleasantly on the arm and for years, possibly all his life, he remains proof against smallpox. We introduce some drops just as easily into his system and away goes the fear of diphtheria. Would it not be a godsend if we could plant other things, character, for instance, in some such way? But the thought is a digression; it is the child's health that concerns us.

For a number of years the physical examination of school children in Chicago has been supported by the city through its tuberculosis sanitarium, the department of health undertaking the supervision of the physicians and nurses doing the work. With the opening of school, 1923, fifty physicians and as many nurses, selected through competitive examination and regulated by civil service, were employed. The object was not merely to find defects among children, but to urge their correction when found. To get a child "up in the air," to employ an aeronautic term, without helping him to make a safe landing, would be a waste of time, money and energy.

The work at first was among children who had been several years in school. This was found to be somewhat late in the child's life to call attention to his imperfections. Their presence had already wrought harm. So it was thought better to begin earlier, when, for obvious reasons, a more thorough examination might be made. The past four years' experience has proven the worth of our present methods.

As far as one is able, without the employment of special instruments, the child, with his upper clothing removed, is examined from the top of his head to his girdle. The feet, with shoes off, are also examined. Every anomaly and every abnormality is observed and the findings record-

ed. If a remediable defect, one that may hamper the child in any way, is found, a letter is sent to the parents or guardian calling attention to the fact, with the suggestion that the family physician or dentist be consulted. It is further urged upon the child's elders that as soon as a correction is made or treatment is begun that word from the doctor or dentist to that effect be transmitted to the nurse for endorsement on the individual's card. If, as occasionally happens, parents do not give such notices sufficient consideration or, possibly, ignore them altogether, the assisting nurse makes a home-call and in a tactful way discusses with the mother the desirability of having the teeth looked after, the tonsils removed, or whatever it is that has been found at fault, corrected. It isn't as if something was advised which could not be carried out. If the family is without funds, ways and means are suggested whereby the necessary treatment may be had without cost.

The difficulty to be overcome, in the matter of getting defects corrected, is quite as much one of conviction as it is of impecuniosity. Parents cannot understand how these slight—to them—abnormalities can endanger the child's health or even hamper his progress. Various methods have been devised and tried in the hope of awakening interest and developing understanding. One plan that proved fairly successful sought to reach the fathers and mothers through their children. Lists were posted in school rooms setting forth the physical perfections, as well as imperfections, of its various members. It was believed that the child, carrying the information home, might stimulate the parents' pride and interest to the extent of obtaining for their child the gold star set opposite the names of those whose defects had been corrected. The scheme worked well in schools where the teacher and nurse were assiduously persistent. Intensive periodic campaigns along this line should be worth trying. Might call them "Physical Correction Weeks." The Mothers' Conference, the purpose of which is to get the parent to witness the procedure of examination and to talk over with her the importance of remedial measures, is another method designed to meet the same needs, and is to some extent still carried on throughout the city. These conferences can never be very well attended, for mothers find it exceedingly difficult sometimes to leave their own cares and responsibilities at home.

Every physician has his own opinion as to what constitutes a defect. In our own group we are constantly conferring with one another, yet we are not always in accord. It isn't human that we should be. Each views what he sees from a slightly different angle. If we "slip up" occasionally, and mark a child down for something his own physician says he does not have, it is not because we lack instruction, but rather because of this varying viewpoint. To say that we are not qualified to judge is, to put it mildly, hardly fair. Whether the tonsils should be removed or whether the teeth need to be filled, is another matter. Our function is to find out what is wrong and, if possible, get it fixed. If the family doctor or dentist says the tonsils and teeth are all right, his statement is made a part of our records and, right or wrong, remains authoritative. If, however, no such statement is brought back to us, the child is re-inspected later and another appeal made to have the defect remedied.

Back of it all is the idea of fortifying the child with good health, of building up his resistance, especially his resistance to tuberculosis. If he is already infected with the disease, we aim to find it out early and give him every opportunity to fight it off. If he is otherwise healthy, yet has enlarged or diseased tonsils, bad teeth, or other hampering defect, we reason that he may become still healthier and stronger if these imperfections are removed.

All children are said to be tuberculous. We do not necessarily brand them as such, but when we find one who is undernourished, or is below weight, or has large lymphatic glands, we make a special report of our findings to the Sanitarium which in turn sees that the child is kept under observation and from time to time re-examined.

His physical defects corrected, better sanitation in the home, more sunshine, a freer use of water, outside as well as inside the body, and plenty of wholesome air to breathe, these are the things to make the child what he should be, what every child has a right to be—healthy. As President Hoover has so well expressed it, "we

need to know, through visual testimony, and in scientific fact the child that nature, working at her best, intended. We need described, in terms that fathers and mothers can understand, the child whose organs are functioning efficiently, whose growth is progressing unimpeded, whose senses are developed unhampered, and whose potentialities are realized, mentally, morally, and physically."

5813 S. Troy St.

PHYSICAL DIAGNOSIS*

LOGAN CLENDENING, M. D.
Professor of Clinical Medicine, University of Kansas,
LAWRENCE, KANSAS

This paper, on a very commonplace and old-fashioned subject, is the result of reflection over my experience of nearly twenty years of teaching physical diagnosis. Naturally in that time I have had opportunities of watching not only students, but internes, consultants, fellow practitioners and myself making mistakes in diagnosis. I want to present to you this afternoon the result of my experience in this subject. I want, in short, to summarize the main reasons why, in my opinion, people make mistakes in diagnosis.

I say mistakes in diagnosis, not physical diagnosis, because in my experience most mistakes that are made in diagnosis are made *not* because some laboratory examination has been neglected or has been made incorrectly, but because enough time was not spent upon the history and the physical examination of the patient.

The real anchor of a diagnosis procedure is the combination of history and physical examination. These hold you, as an anchor does, to reality. What the patient tells you first, and second what you can see and feel and hear—these things are what determine not only your opinion of the nature of his trouble but also what you are going to do about it—your therapeutics.

I have frequently been called into consultation in a small town to find the physician in a great state of perturbation because he was meeting a city consultant and had not carried out some mechanical procedure he thinks the city consultant must have. "You know we can't get an electrocardiograph here." "I'm terribly sorry I haven't made a Wassermann test." "You'll probably want to know her basal metabolism, but I haven't got it." Nonsense! These things are of little importance—what do these machines tell us that we cannot find out much better by using our own wits? I confess to having learned a great deal from them: for instance, I studied the principles of electrocardiography and learned much about the heart's action in health and disease. But the most valuable thing the study of electrocardiographs taught me was to incorporate this knowledge into my routine physical examination. To transfer it into terms that could be applied to the palpation of the pulse. I think every mechanical device teaches us something—but the man who does not learn its lessons and learn to free himself from the device—who does not teach his eyes and ears and his fingers to do what the machine does—has not learned its most important lesson.

I tell my students in physical diagnosis that it is the most important subject in their curriculum for three reasons:

First, because it is diagnosis by their own senses. The instruments of physical diagnosis you will always have with you—your fingers, your eyes and your ears. If you were cast up naked on a desert island, you could still be the scientific medicine man of the native tribe provided you were a skillful physical diagnostician.

Second, because it is an art, not a science. It is an applied art. Naturally so—it is the education of your senses to do a certain thing. To an art there is no end. You will always be learning something about physical diagnosis. You will never be perfect. It is the one thing you can never turn over to an assistant. Any more than Paderewski could turn over his piano to an assistant, for a recital. You will always have to practice. Just as Paderewski always had to practice.

Third, because everything you ever learn—about anatomy, physiology, pathology, symptomatology, chemistry, bacteriology—will make a better physical diagnostician of you. Everything you can learn will train your mind to direct your fingers and your eyes and your ears. Anybody can learn to do a mechanical procedure

*Read before Illinois State Medical Meeting, Section on Medicine, May 20, 1930.

—and in a short time do it just as accurately as the most experienced. A twenty-year-old girl in the laboratory of your hospital can probably make a good deal more accurate blood count than William Osler could have made. And a blood count or an entire set of laboratory examinations has a corresponding importance in a diagnostic procedure. The knowledge of how to do a laboratory examination has no source of growth: it is not alive. Your knowledge of physical diagnosis should be alive, it should grow with every patient you see, every paper you hear at a medical society, every article or book you read.

With this preliminary let us now consider the causes of mistakes in physical diagnosis which are most frequently met and which are the most disastrous. They are five:

The first is the finding of physical signs which are not present. By all odds the most frequent and most disastrous cause of mistakes in a physical examination! *Not,* mind you, the failure to find signs that are present. Everybody is afraid of that. Everybody has been warned against that. Everybody is in deadly fear that some later examiner will detect some sign they have missed. But such mistakes of omission are not very serious.

It is the over-industrious or over-alert, or over-conscientious fellow who finds a heart murmur in a normal heart, or a rale in a normal chest, or an enlarged spleen which is not there, who gets the patient into trouble. Because then the fellow with the murmur is turned down for life insurance and goes on and lives thirty years, during which time he could and should have had protection. Or the fellow with the rale is uprooted from his business and sent to a sanitarium for a year to heal a tuberculosis that never was. (I wonder how many thousands of times that has happened in the past few years—how many million years of human life doctors have wasted this way). And the fellow with the big spleen is made melancholy and goes home to await the development of a leukemia which does not arrive —so he changes doctors.

Oh! These things are disastrous all right. In more ways than one. A particular case I saw last year comes to mind. A patient had an intermittent heart block for which no cause could be found. She had a negative Wassermann. The surgeon said she had very bad pus tubes and infected ovaries. After a bed rest period the physician thought her heart was in good enough shape to stand the removal of the infected organs in the pelvis. It was thought this pelvic infection might be the cause of the heart block. But when she was opened up, the tubes and ovaries were as movable and free from evidences of inflammation as even the most hardened gynecologist could wish. But the operation—based, you see, on finding physical signs which were not present—threw her back into a state of decompensation from which it took six months to recover.

The most fatal fact about finding a sign that is not present is that you are committed to something. Either at the autopsy or at the operation or in the future.

Why do we make these mistakes so frequently? There are several reasons. First, I think, is lack of self-assurance. There is a funny sound there —maybe it's a murmur—better call it a murmur. You see, the fellow who thinks that way does not really know a murmur when he hears it. He never got acquainted with real murmurs. The second reason, I suspect, is that we are afraid somebody else—one of our rivals—will find a sign we have missed. So we beat the rival to it by finding all the signs there are. It takes just as much courage to say "no" as to say "yes." And judgment, too. Thirdly, the patient leads us astray. He has so many symptoms that we feel we must discover something to account for them. Is it possible for a person to be fatigued as this patient claims to be and have no tuberculosis? Or that dreadful pain in the abdomen—one hardly has the face to say that there is not only no tumor but not even any rigidity there, does one?

Think this item over carefully. See if you do not agree with me that this is the most frequent cause of serious mistakes in diagnosis.

Second, the second most frequent cause of mistakes in diagnosis is to accept someone else's word for an essential part of the examination.

I can tell a story to illustrate this. A little girl began to run a temperature. She was taken to a hospital where all sorts of examinations were made. Everything was found normal, so it

was decided she had otitis media. And the ear drum was opened. But the temperature did not come down. Finally a specialist came from a distant city. But before he decided to operate he inquired into the condition of the urine. The laboratory had reported on five specimens—all normal. But when the consultant from the distant city looked at a specimen himself he found it was loaded with pus. Even a catheterized specimen had pus. The baby had pyelitis. But if somebody besides the laboratory technician had not looked—*just looked,* you see, no complicated technical, chemical procedure — at the urine, the mastoids would have been cut wide open.

That is an example of making a mistake by letting someone else make an essential part of the examination for you. A urine examination is always an essential part of an examination.

Third—depending on doubtful methods. I have known many hopeful young diagnosticians who have become obsessed with some queer method of diagnosis they have heard about and who pin great results on it.

I will refer to two of these. Both are strictly in the field of physical diagnosis. One is the attempt to outline the size of the heart and aorta by percussion. It can not be done. Anyone who attempts to outline the heart or aorta by percussion will make a gross error in over 75% of his deductions. This has been demonstrated over and over by the comparison of percussion markings and x-ray plates. Why then try it at all? We can determine the apex beat of the heart by palpation and inspection with less than 10% of error. That is the only determination of the heart's size we can make by physical diagnosis. For the rest we must depend on the x-ray. Let us acknowledge it and do it. At any cost, whether it tell us much or little, let us have the method we use all wool and a yard wide.

Another instance is the use of the percussion of Kronig's isthmus for the diagnosis of tuberculosis. In the first place, not one out of a hundred men can ever learn to be an accurate percusser. Not one out of a hundred men can ever learn to be a sufficiently accurate percusser to outline Kronig's isthmus. Even when accurately outlined its significance is very doubtful. Yet we have tuberculosis specialists solemnly hammering away in order to record this thoroughly unreliable fact, teaching others to do the same. As an example of the way an experienced diagnostician depends on nothing but dependable methods, contrast the five diagnostic criteria Dr. Lawrence Brown set up for a diagnosis of tuberculosis. The diagnosis of tuberculosis can not be made, he says, unless some of the following five things are present:

1. History of hemoptysis.
2. History of pleural effusion.
3. Tubercle bacilli in the sputum.
4. Rales on auscultation.
5. Spots of tubercle in the x-ray.

Look that list over. Every one of them solid to the bone.

Think of that and think of all the fine-haired methods the average tuberculosis expert dilates upon. Dr. Brown has even left out temperature, history of loss of weight, fatigue, and cough. All those things may be deceptive. In physical diagnosis the only sign he depends on is the rale. That is the result of a long experience and the discarding of all less dependable methods.

The same thing applies with equal force to other fields—the doubtful value of liver function tests, the interpretation of linear lines (the fan) on the x-ray plate as indicative of pulmonary tuberculosis, the non-specificity of skin tests for food hypersensitiveness—etc., etc. Here I mention only physical signs.

Fourth—making a local, not an inclusive examination.

This is a little deeper than it looks. I do not mean entirely that mistakes occur because a diagnostician will devote his whole attention to the heart and hence neglect something important in the throat. I mean even if every part of the body is carefully examined—even by a group of specialists each in his own line, even by a group clinic—and the result is all neatly typewritten down so that the report covers pages and pages and pages and pages—and there are x-ray reports, and blood chemistry reports, and toenail report, and then at the end it is all summarized. I mean even that is not a diagnosis. The sum of all local examinations is not a complete examination. Any more than if you have four legs and a head and a tail and a trunk, you have a dog. What is needed? Life—that is what is needed to make the dog. What is needed for the diagnosis? The same thing. A comprehensive

whole—not the sum of the parts. You need to know all about the patient—how he works and acts as a unit—about his business, his domestic situation, his hopes, his despairs.

Let me illustrate. I will choose a very common experience. Just before I quit private consultation practice, a woman was brought to me who had just come from a great sanitarium-clinic. She had one of those long typewritten reports on her condition which are now so common and so worthless and so uninteresting. After talking to her five minutes I threw the report away because anybody could have seen in that length of time her physical condition was not the key to her disease. She had a personality problem of some sort.

This is what I found. She consulted me for stomach trouble, pains, couldn't eat certain things, was hypersensitive to certain things. But the stomach trouble had only lasted a year or more. Before that she had had colon trouble, and before that menstrual trouble, and before that fatigue, sweating and temperature in the afternoon.

She had consulted in all about twenty doctors or clinics. Please note—all of them were the very best examples of modern medical practitioners. This is what had happened to her.

Four operations — appendectomy, ventro suspension, tonsillectomy, five teeth out.

One change of climate to Arizona — on the diagnosis of tuberculosis.

Twenty to thirty x-ray plates of her chest. She could not remember exactly how many.

Twelve blood serum tests.

Four basal metabolism rates.

My final diagnosis was fear-neurosis. It dated from the influenza epidemic—during the epidemic she lost a sister and she was afraid she would die herself. It took six months of patient care to cure her.

The idea that a staff of diagnosticians can make an examination of a patient, each in his own field and then somebody who has not up to then seen the patient can summarize the whole set of reports and make a diagnosis, is not only the most unscientific conception imaginable, but also one of the most dangerous. A diagnosis is a personal thing—an art just as much as a treatment is. And the diagnosis and treatment are continuous. One leads into the other.

Fifth—trying to make a diagnosis on the first visit.

Time is a better diagnostician than any of us. The course of the disease clears up many a mystery. The most thorough examination leaves us puzzled sometimes. But there is a temptation, in spite of the fact that we know we are puzzled, to make pronouncement, to call the disease what seems most likely.

Nothing illustrates this better than cancer of the colon cases. A typical instance was a man aged sixty who complained of a pain in the epigastrium. The x-ray man found a defect he called ulcer of the stomach (note that and think of my first point). He was treated by alkalies and a strange up set occurred called alkalosis. Then he began to have colon trouble. Barium enemata and sigmoidoscopy were negative. He was re-treated for ulcer. Finally an intestinal obstruction intervened and the real diagnosis—of cancer of the sigmoid—was arrived at.

Summary—the five most frequent causes of mistake in physical diagnosis in my experience are:

1. To find signs which are not present.
2. To let someone else report an important sign to you instead of investigating it yourself.
3. To depend on unreliable methods.
4. To make a local instead of an inclusive examination.
5. To insist on making a diagnosis on a single examination.

But behind all that there is another lesson—to be a creditable practitioner you must keep close to your patients. You must know them not as a physiologist knows a guinea pig but as one human being knows another.

Argyle Building, Kansas City, Mo.

DISCUSSION

Dr. L. D. Snorf, Chicago: I think the essayist has covered very thoroughly the problems of physical diagnosis. It seems to me that if we can learn a few of the things he told us, and use our common sense, or horse sense, not depending too much on laboratory interpretations, that, after all, is the thing. We are rather driven to do so unless we have the courage of our convictions. The patient wants an x-ray and all the other laboratory tests. If you will make a thorough investigation with your five senses first, I think you will probably come out with the greater percentage of accurate diagnoses.

Dr. Logan Clendening, Kansas City (closing): I do not wish to appear as an opponent of other methods of diagnosis. But I do not believe it is any more scientific to use all the methods in our hands than to use none. They should be selected to the patient's need. I do think, however, that at this time in the history of medicine we need more emphasis on the physical contact with the patient, getting away from routine mechanical methods and going back to medicine as an art, not as a science.

SOME REMARKS ON THE ETIOLOGY AND TREATMENT OF CONVERGENT SQUINT*

SAMUEL WOLF, M. D.,
CHICAGO

Historically our ideas of the etiology of concomitant squint have undergone the same process of evolution as any other branch of the medical sciences. From such simple explanations as an "evil disposition," "imitating other members of the family," etc., to the theory of anomalous insertion and length of the extra ocular muscles and finally to the most recent development of the accommodation theory of Donders and the fusion theory of Worth.

That there may be an occasional squinter as a result of an anomalous muscle is altogether probable. The extra ocular muscles are subject to many variations in length, breadth and insertion. These cases are, however, in the minority, and when found, the treatment resolves itself into a simple surgical procedure for the attainment of purely a cosmetic result. No other factors need be considered. The great majority of concomitant squinters are not, however, of this type and in the explanation of their probable cause, many factors are to be taken into account.

Worth attempted to explain the onset of squint as due to an undeveloped fusion faculty. It is known that in order that the two eyes may see an object distinctly, or stated more scientifically, to enjoy single binocular vision, it is necessary that the images of the object focus on corresponding parts of the retina of each eye. Our eyes, however, are parallel only when looking at distant objects. When focusing for near objects, they are subject to varied degrees of convergence, and in so doing, each eye fixes the object at a different angle, or the object may not focus on exactly corresponding retinal points; were it for this purely physical mechanism of vision only, we would see a double image. The ability to blend this double image into one, has been attributed by Worth to a fusion sense, a fusion faculty or a fusion center. When therefore, for any reason, this fusion faculty, or fusion center is not fully developed, the child is subject to diplopia, and in order to avoid this annoyance he suppresses the vision in one eye, usually the eye with the greater refractive error, and fixes only with the better eye.

While this theory explains the process for single binocular vision, it does not explain the actual mechanism of convergence or divergence. For this we are indebted to Donders and his accommodation convergence theory may be explained briefly in this manner.

When a person with normal eyes, or an emmetrope, looks at a distant object anywhere from six meters to infinity, the eyes are in a static state, the accommodation is relaxed and the visual axes are parallel. Should he, however, fix at a near object, say at one meter distance, it will be necessary that he accommodate to the extent of one diopter, if at 50cm., two diopters, at 33cm., three diopters, etc. During this process of accommodation, the eyes automatically converge to the near object. The angle of convergence which each eye will make is definite and bears a direct relation to the diopter of accommodation. To express this relation, the term meter angle of convergence is used; thus, the angle of convergence which is made when an eye accommodates to the extent of one diopter is known as one meter angle of convergence, when two diopters of accommodation are required, there are two meter angles of convergence, etc.

Consider now the hyperope or far sighted whose accommodation is never relaxed. As a concrete example, let us take a child with four diopters of hyperopia. When the child fixes at a distant object he must use four diopters of accommodation, but in so doing, he also converges to the extent of four meter angles. When he looks at a near object, say 33cm., he must use his four diopters of accommodation for distance plus three diopters for near or a total of seven diopters; he then automatically converges to the

*Read before the Clinical Conference of the Research and Educational Hospitals, University of Illinois, March 6, 1930.

extent of seven meter angles for each eye. It will be seen, that with so wide an angle of convergence, there may be created an insurmountable diplopia. In order to avoid this annoying diplopia, the child will fix with the better eye while the other eye will converge to an extent of what the two eyes normally should; thus in our example fourteen meter angles. The vision will of course be suppressed in the converging eye. It is plain then, that while the squint is manifested in one eye, the physics of squint is really a bilateral process.

The treatment of squint by the use of glasses is based entirely on this theory. In the hyperope a full distance correction is given, thus obviating the necessity for accommodation and with it an excessive amount of convergence, while in the myope with a divergent squint, the reverse holds true. Here glasses are prescribed for distance, and the patient is forced to accommodate for near objects so that a normal convergence is established.

The treatment thus outlined, seems, on the face of it, very simple; the results in our clinics, however, are not so encouraging. The great majority of cases eventually become surgical subjects. The reason for this is not, however, in the theory of the treatment, but is due to the fact that as a rule, these children come to us too late for conservative measures. There is still a widespread belief among the laity that a child may grow out of its squint, and there is still a lack of appreciation by the average general practitioner and even by the pediatrician, of the true problem of the squinting child. I have already called attention to the fact that regardless of what theory we wish to accept in a case of squint, the underlying reason is a diplopia followed by a suppression of vision in the weaker eye. Given a case that develops a squint early enough and if we neglect that case long enough, the squinting eye eventually becomes an amblyopic eye, for all practical purposes a blind eye. The chief problem in a squinting child then, is not the cosmetic result but rather one of conservation of vision.

In a statistical study of 1,017 cases by Worth, he found that the onset of squint was as follows:

Before the 1st year.....134 cases
Between the 1st and 2nd years.....186 cases
Between the 2nd and 3rd years.....247 cases
Between the 3rd and 4th years.....189 cases
Between the 4th and 5th years.....113 cases
Between the 5th and 6th years..... 73 cases
After the 6th year..... 75 cases

That is, in 75% of the cases the onset was before the end of the fourth year, and in about 93% before the end of the sixth year; long before the retina is fully developed and at a time when, if treatment could be instituted and carried through to its final conclusion, these children could be saved the necessity of going through life with one eye practically blind. It is, however, unfortunate, that most squinters come to us at an age when the squint is fully established and the eye is already amblyopic. It is then useless to expect any cure by means of glasses. The problem then becomes a surgical one for the attainment of purely cosmetic results.

55 E. Washington St.

RECTAL AND PERIRECTAL DRAINAGE OF DEEP PELVIC ABSCESS*

CHARLES J. DRUECK, M. D.; F. A. C. S.
CHICAGO

Superficial abscess of the perineum, perirectal structures or in the buttock regions is usually readily recognized, therefore, promptly and thoroughly evacuated, and usually heals without much destruction of tissue or later complications. Deep pelvic abscess because of the many different and diverse lesions which may be its source has a somewhat obscure beginning, is frequently overlooked, misdiagnosed and mistreated. Because of the multiplicity of lesions which may end in deep suppuration the abscess may be situated in front, lateral to, or behind the pelvic viscera and involve either the pelvic connective tissue, the pelvic peritoneum or both.

1. The more usual causes of superior pelvirectal abscess when within the pelvic connective tissue are:

a. Periproctitis due to ulceration of the rectal wall; secondary to rectal stricture; or penetration of the rectum by a foreign body. These, however, are but seldom the source.

*Read before Section on Surgery, Illinois State Medical Meeting, May 20, 1930.

b. Extension from a focus in the urethra, prostate, or seminal vesicles.

c. Periuterine cellulitis.

d. A complication of pelvic surgery, pelvic injury or fracture.

e. Disease of the vertebra, sacro-iliac joints or pelvic bones.

f. Metastasis from some distant focus.

2. In other instances the abscess may be situated sub-peritoneal or intraperitoneal. In the latter case the abscess is covered with agglutinated loops of bowel and omentum, and here is usually due to

a. Complication of an abdominal operation.

b. Appendicular abscess.

c. Meckel's diverticulum.

d. Fallopian tube or ovarian disease.

e. Diverticulitis of the sigmoid.

Pus may accumulate in the pelvis without marked constitutional disturbance and therefore an abscess may attain considerable size before it is recognized. In most cases the difficulty of establishing a diagnosis is because of the indefiniteness of the symptoms and yet all patients give a history of antecedent illness or trauma with evidences of pelvic infection later. The ease of diagnosis therefore varies with the clearness of the history, the size of the abscess and the extent of involvement of other organs.

The clinical picture is that of general sepsis, masking the local symptoms to so great an extent that the true nature of the illness is not discovered until too late in the course of the illness, and a mistaken diagnosis of typhoid fever or malaria may be made.

In the post-operative cases the patient appears to be doing well for the first few days, the pulse rate and temperature falling to normal where it had previously been raised. Then the temperature rises again. Diffuse abdominal pain and tenderness are complained of, but there is no rigidity. This complete absence of abdominal rigidity is a cardinal sign of localized pelvic pus. Abdominal distention comes on and cannot be relieved even though there is thorough intestinal evacuation.

The late symptoms arise from the abscess itself, rather than from the underlying pathology and do not differ much regardless of the primary focus.

Pain deep in the lower abdomen and in the pelvis, gradually increasing in severity, begins as a feeling of warmth or fullness in the perineum or up within the rectum. It becomes sharply severe when the bladder or rectum is distended and especially so during the acts of urination or defecation though it is promptly relieved after these organs are emptied.

Tenesmus of the bladder or rectum are troublesome although variable in degree. Some patients have to urinate every few minutes. This difficulty of urination sometimes amounts to actual obstruction of the urine because the large abscess compresses the ureter. In elderly men these symptoms may be mistaken for hypertrophy of the prostate.

Constipation sometimes results from obstruction of the rectum, but usually diarrhea exists instead. There is a constant desire to defecate, a constant rectal tenesmus and the passage of mucus. So constant is this triad of symptoms that it is almost pathognomonic.

Upon abdominal palpation there may be found an ill defined tender mass rising from the pelvis, but when distention is marked, this may not be very evident. The perineum may be seen to bulge when pressure is made over the mass pushing it into the pelvis.

The anus at this time will be found patulous, considerable clear, odorless mucus filling and escaping from the bowel.

The most definite information is obtained by digital examination through the rectum. A bulging is noted of the anterior rectal wall, which, when suppuration has actually developed, becomes soft and edematous.

These abscesses, being secondary to an earlier infection, which may have been in neighboring structures, or in a distant nidus, come on as a late complication, ten to fifteen days elapsing from the time of the primary conditions before the presence of the abscess is discovered. During this period of symptomatic quiescence the pus is being walled off by adhesions and by other processes and becomes a localized abscess. It is during this stage, before the collection is definitely palpable, that watchful expectancy is so important.

The position of the abscess is determiend by a number of circumstances, such as the location of the primary infection, certain anatomic conditions determining the direction of spread of

infection such as the planes of intraperitoneal fluid communication, the lines of attachment of the mesenteries, the troughs formed by the mesenteric leaves, the dissemination by active lympangitis and by venous blood channels. Berneys collected the serous fluid from the pelvic floor of a number of cases of acute appendicitis with beginning peritoneal reaction, but without pus at the time of operation, and found that it contained a rich bacterial flora, which, incubated on suitable media, developed very prolifically. This fluid gravitates and may subsequently become infected. It therefore seems logical that the Fowler position so extensively used after abdominal and pelvic operations may favor the late development of pelvic abscess in suitable cases. Therefore, a number of methods of attacking the abscess will present themselves and each method has its advantages under specific conditions. A very broad generalization is that, as a rule, where these abscesses show by phenomena in the abdominal or pelvic structures, a tendency to "point," that site is usually the best to select for incising them. The essential points in our plan of treatment are to provide free and dependent drainage, to interfere as little as possible with the excretory and sexual functions, to minimize complications, and to hasten convalescence.

Three possible terminations of these abscesses may occur.

1. Resolution.

From the literature it would appear that a small number of pelvic abscesses are resolved. This is a disputed matter among authorities, some alleging that the relief is only incomplete and temporary to be followed by a flare up and suppuration.

2. Spontaneous rupture.

Rupture spontaneously into the free peritoneum, a gut segment, the bladder, vagina, or rectum, or externally through the abdominal walls or the perineum may occur sometimes with only a little straining at urination or defecation or during a rectal exploration, although this latter trauma can hardly be allowed as a spontaneous rupture. Sometimes there is no apparent determining cause. Rupture into the rectum occurs more frequently than into the vagina, the latter being rare.

Because a number of these cases will spontaneously rupture externally a temporizing course of management is sometimes instituted, but such procedures unduly sacrifice vital organs and structures which it is our aim to conserve. Spontaneous rupture may also at times be insufficient for proper drainage and an infected cavity remains to be a chronic discharge or the cause of subsequent attacks of abscess formation. Therefore, we feel that as soon as the diagnosis is made, a proper surgical intervention should be advised.

3. Operation.

There are several different avenues of approach to these abscesses, each having its advantages in selected cases.

A. Approach through the abdomen.

There are two directions of abdominal drainage, 1. Through the peritoneal cavity and 2, extraperitoneal.

While pelvic abscesses do admit of being evacuated and drained through the abdominal wall, they do so somewhat against gravity. Drainage through the abdominal parieties is often resorted to alone, though frequently the abdominal drain constitutes but one of two drains simultaneously used, the other passing outward through some part of the floor of the pelvis. When a pelvic abscess is drained from below, the opening is placed in some part of the middle line of the body. In women the usual method of procedure is to make an opening through the dome of the posterior vaginal fornix. In males and in young girls the rectum is often used for single or counter drainage.

B. Colpotomy—Vaginal drainage.

Vaginal drainage is a very definite surgical need and a satisfactory operation in selected cases, but owing to the many different causes, sources and sites of intrapelvic abscess, the indications for vaginal drainage must be certain or an unsurgical procedure is done of cutting an opening into the posterior vaginal fornix, and then burrowing in the dark with an instrument or the finger, hoping to break through the walls which bar the pus from evacuation, and not break through walls which protect uninfected cavities or into uninvolved structures or organs.

The vaginal route is not a route of selection in female children, in young unmarried, and in nulliparous women, where it should not be employed because the vagina does not admit of

enough dilatation to permit safe and adequate incision of the pus pocket. The prolonged contact of the cervix uteri with the infectious discharges escaping through the vaginal incision exposes the uterus and the adnexa to infection.

C. Proctomy—Rectal drainage.

Drainage through the rectum was the usual procedure a generation ago and in selected cases is good surgery. It is never to be attempted as a blind operation. Drainage through the rectum in males, like drainage through the vagina in females has distinct advantages. The technic is easy, with very little danger, relief is immediate and our patient is out of bed in a week. The rectal route is, theoretically, uninviting; nevertheless, the objections that have been made to rectal drainage of pelvic abscesses are in the main theoretical. Rectitis has never been observed in any of the reported cases, and fistula is common to all other methods of drainage by the lower routes; the fear of fecal reflux to the abscess cavity is to a great extent imaginary.

The dangers of rectal section are:

1. Puncture of the bladder. Inflammation contiguous to the bladder is very prone to cause incomplete emptying of this viscus, and the patient should always be catherized before operation.

2. Serious hemorrhage may occur because sizable blood vessels are liable to be cut.

3. Rectal section does not remove the focus of infection, which, if still present, may lead to a recrudescence later of serious symptoms.

D. Perirectal drainage.

Abscesses in the superior pelvirectal space having the levator ani muscle below and to the outer side, the loose areolar tissue of the opposite pelvirectal space on the median side and the soft pelvic peritoneum above, may do much damage by dissecting extension and should be incised if a certain diagnosis can be made, and usually it is good surgery to open up the space even if the diagnosis is doubtful.

The skin incision, owing to the abscess being above the levator ani, must be long. It is placed parallel with, and well outside of the external sphincter muscle beginning an inch anterior to the anus and carried well back toward the coccyx. The dissection is carefully carried through the ischiorectal fossa to the levator ani muscle, two inches from the skin. After penetrating the levator ani one begins to enter the site of the abscess a distance of two and a half to three inches. The average index finger is about 7.5 cm, or three inches long.

The entire dissection must be cautiously carried out to guard against injuring adjacent structures. When the cavity is entered and the pus evacuated, all intercommunications are broken up, but as unsupported blood vessels and nerves may hang loosely in the abscess cavity they must be watched for. A finger introduced to explore the cavity breaks down intercommunications and sweeps out all necrotic tissue. If the cavity is very deep the finger may be aided by carrying up a pair of dressing forceps and swabbing the cavity with a gauze wipe. The cavity may also be flushed out with saline solution and is then lightly packed with strips of gauze.

The upper part of the dissection must be especially carefully carried out to avoid injuring the urethra or the vesico rectal pouch of peritoneum. During this deep dissection the parts must not be stretched lest these friable tissues tear into the bladder, rectum or peritoneum.

This parasacral approach is an extensive dissection, not just a stab wound. It necessitates separation or division of the fibres of the levator ani, gluteus maximus and sometimes the sacrosciatic ligament. It may be attended with troublesome hemorrhage.

DISCUSSION

Dr. Clement Martin, Chicago: Dr. Drueck's carefully prepared paper has covered the subject thoroughly.

The matter may be simplified by classifying these abscesses as supra or infra-levator abscesses. They are in the great majority of cases supra-levator, above the levator ani muscle. In the men they may be in the fascial spaces above the pelvic genito-urinary organs, in women between the upper vagina or cervix and rectum or run below and between the folds of the broad ligament; in both men and women the abscess may lie just below the pelvic floor between the peritoneum and levator ani muscle. A collection of pus may lie between the sacrum and rectum, the retro-rectal abscess. The subject is important because of the difficulty which may attend a diagnosis, especially in men and because peritonitis may result. A man having a supra-levator abscess may offer a real problem in diagnosis. One is fairly certain of the presence of an abscess somewhere because of fewer leucocytosis, and the general appearance of the patient, but determining the site of the abscess may be quite difficult especially in its early stages. The history is helpful; supra-levator abscess in males is generally secondary to a genito-urinary in-

fection, and to disease of the cervix, corpus uteri and adnexa in females. Exceptionally it results from rectal disease, chiefly ulceration in the lower rectum. Such ulcers may follow the ill advised use of chemical cauterants or electrodes, or instrumentation especially by irregular practitioners. The rectal findings vary; there may be none in the early stages, later bogginess can be felt on digital examination of the rectum. A tender indurated area may be found if the abscess is of good size.

As has been said, treatment depends upon the sex of the patient and the position of the abscess. Posterior colpotomy often suffices in women; if the pus is retrorectal, the perineal approach is necessary. In men open free dissection is made through an adequate perineal incision. This must be accurate and under guidance of the eye. Another point of some consequence is to cut the levator ani muscle at right angles to the direction of its fibers so the opening will gape and not interfere with drainage as the tract heals.

RELATION OF THE COLLOIDS OF THE BLOOD TO CLINICAL MEDICINE*

FRANK WRIGHT, M. D., ALBERT ZRUNEK, M. D.,
CHICAGO

Before the monumental work of J. E. R. McDonagh of London appeared the clinical examination of the blood had been principally directed toward the cytology, the chemistry and the various specific serological reactions. However the fixed and stained specimens which give so much information in the differential blood count permit no vision of the cell in full activity. Further, one of the frequent steps in estimating the metabolites of the blood is to prepare a protein free filtrate, thus divorcing the glucose, urea or other constituent from any consideration in relation to the protein content. Lastly the question of agglutination, flocculation, precipitation and lysis has been left to the serologist searching for evidence of specific infection.

The films just projected give evidence that hydration, agglutination, flocculation and precipitation may be seen in the making. Long before the serum presents macroscopic or even microscopic agglutination these ultramicroscopic colloidal particles may be observed as they react to various chemical or bacterial toxins. The changes in disease may be followed after use of therapeutic agents, and a means provided for determining when treatment should be terminated.

*Read before Illinois State Medical Meeting, Section on Medicine, May 21, 1930.

Serum from a healthy individual viewed in a dark field shows an enormous number of actively motile protein particles. They are uniform in size and diffract the light moderately. These particles maintain this motion for days, even weeks or months.

The numerous metabolites of the serum, as glucose, urea, salts, sodium, calcium, phosphates, sulphates, fatty acids and other lipoids are found partly in solution in the aqueous medium and partly absorbed upon, or combined with these protein particles.

With normal dispersion and motion of the protein particles the average findings are:

Glucose	80-100 mgm.
Urea	20- 30 mgm.
Sedimentation rate three hours (Friedlander)	
Refractometric index	1.3500
Viscosity	1.75

Infection and chemical intoxication affect the particles profoundly. They subdivide until they lose their power to reflect light, becoming submicronic or amicronic.

The Brownian motion slows or is lost entirely. Eventually many of the particles go into solution and the adsorbed constituents are found increased in the aqueous medium.

Different lytic agents produce varying changes in the amount of sugar in one instance, urea in another, calcium in a third for example.

Some of the particles or portions split off do not go into solution however. They tend to enlarge, coalesce and are bright. These form the so-called giants or hydrated particles and are composed of globulin or lipoglobulin. These tend to agglutinate, flocculate, precipitate individually or in masses.

In some instances solution or lysis of the protein particles prevails. At other times aggregation of the protein particles predominate. In the first condition there is a loss of water which unites with the metabolites as they leave the protein micella—this we speak of as dehydration.

Contrary to this we have the absorption of water by the lipo globulin fraction as the particles increase in size—this is termed hydration. When this predominates there is a physicochemical combination of the metabolites as well as water with the globulin or lipoglobulin and chemical examination of the protein free filtrate shows a diminution of the metabolites.

McDonagh was the first to correlate the ultra-

microscopic findings with the physicochemical changes in the serum.

In dehydration the metabolites as determined chemically tend to increase, in hydration to diminish. Likewise where lysis or dehydration prevail the sedimentation rate is shortened, the refractometric index and viscosity are lowered. The opposite is most often found in hydration.

The differences lend themselves well to tabulation:

An example of dehydration	Average	An example of hydration
Glucose 180	80-100	56
Urea 48	30	5
Sedimentation Rate (Friedlander). 17 minutes	3 hours	5-48 hours
Refractometric index 1.3490	1.3500	1.3518
Viscosity 1.5	1.75	1.8-2.0

A subacute or chronic dehydration may produce no symptoms until well advanced. Attention is attracted by the polyuria, polydypsia or weight loss in diabetes mellitus or casually finding a hypertension. Both are associated with dehydration. Mild cases cause increased acidity of the urine, sometimes a heightened ammonia or urea output or again appearance of indican or urobilinogen in the urine or various color reactions as the Van den Bergh in the blood. Acute cases often include post anesthetic pneumonias, pulmonary thrombosis and massive collapse of the lung.

Acute alcoholic intoxication produces first an augmented normal dispersion with its feeling of well being. This is soon followed by stupor which, like ether anesthesia, is accompanied by dehydration evidenced by the intense thirst which is frequent. In the case of alcohol the headache is due to the secondary hydration which supervenes. In chronic alcoholism hydration is the rule. The "old bloat" with "whiskey fits" and terminal wet brain give abundant confirmation to this fact.

In long continued infection particularly with gram negative organisms hydration predominates. The cause is evidently the accumulation of the hydrated particles which resist lysis and are deposited in various parts of the body.

Here we find syphilis, chronic arthritis, chronic fibrotic parenchymatous conditions and those states associated with edema.

The number of dehydrating drugs used to combat these conditions gives evidence of their frequency. Bromides, iodides, hexamethylene, mercury, the barbital group, the arsphenanamines and digitalis are useful dehydrators. Once the hydration is overcome continued administration brings about dehydration. As a result there follows the bromide or iodide acne, the barbital rash, the urinary tenesmus or hematuria after hexamethylene or salivation or enteritis after mercury.

Digitalis produces good results in edema but is often harmful in pneumonia where it intensifies the existing dehydration.

In conclusion let me mention the action of insulin the best known substance producing hydration. The effect is seen in the increasing number of hydrated particles, the decrease of blood sugar, the production of edema. Sudden increase of the hydrated lipoglobulins following over dose, when precipitated in the brain, is the cause of convulsions.

Dr. F. Le Blanc, Elgin, Ill.: You have heard Dr. Wright's explanations of the meaning and value of this new interpretation of the ultramicroscopical particles in the study of blood serum in disease. This is the first time that ultramicroscopic particles of the blood serum have been illustrated with moving pictures. This required a great deal of time and money. We have not known much about these particles until Henle, a German anatomist, said the life of cells was caused by intracellular granulations. Bechamp, of the University of Montpelier, in la Theorie du Microzyma, speaks of "little bodies" associated with cells too minute to differentiate under the microscope. He said the naturalist will not be able to distinguish them by a description, but the chemist and physiologist will characterize them by their function. At that time most people believed in Virchow's view of the cell as the unit of life in all forms, vegetable and animal, and this opinion was held by a large body of experimenters, including Pasteur. Later, Schilling observed in the dark field the beginning of inflation, stiffening of previously liquid granules, separation of granular plasm, formation of pseudopods and amoeboid motion and vacuolization of living leucocytes. He ventured the opinion that the small powdery particles of blood which become immediately visible under the dark field are mainly fat particles. He claimed that they constituted a chemical control of fat resorption and working capacity of the reticulo-endothelium. In the last decade, Dorsum of the University of Pennsylvania has noted that in disease the protein particles of the serum assume certain configurations and a tendency to enlarge, whereas in health he depicts the normal dispersed and uniformly small motile protein particles which McDonagh of London calls a normal dispersion. Dorsum is the only one in America who has to my knowledge drawn attention to these particles in serum. Lumiere of France

defends his theories of flocculation of the blood serum as being the cause of pathology. He states that the high refractive index and high viscosity are not the cause of shock, but the result of flocculation. He has demonstrated the possibility of obtaining notable amelioration and even cure of certain ailments such as asthma, epilepsy and various mental affections, by suppressing the phenomena of flocculation, and thereby stopping the symptoms of the disease. These flocculations by their irritating action upon the endothelial terminal nerves of the sympathetic system create vasomotor disturbances affecting the equilibrium of the serum and the leucocytic formula. He says that Herman Dold of Germany made the mistake of blaming the substance anaphylatoxin as the cause of shock, whereas such a substance has no real existence, and that flocculation is the real state of the serum particles giving rise to the symptoms of the anaphylactic crisis.

If the serum be examined in various conditions of anaphylaxis, whether following the ingestion of certain elements to which one might be sensitized, such as fish, eggs, milk, etc., or following the dose of a drug in certain sensitive individuals such as antipyrin, chloral, quinine, etc., or a second dose of a serum such as diphtheria antitoxin; or an intravenous dose of arsenobenzol; the serum will show the presence of flocculates and the clinical symptoms will be analogous, which proves that these substances, essentially different from each other, still possess a common pathological property, that of causing serum flocculation followed by the clinical symptoms of disease. In experimental animals which succumb to these experimental infections, the visceral lesions revealed by histological examination are more or less pronounced but always comparable. Therefore this analogy of symptoms and lesions would cause one to think that the cause of the sympathetic disruption is in the main the same. Whether the symptoms of shock are acute or chronic is dependent upon whether the insult of these flocculates upon the level of the nervous system capillaries is affected in a slow or rapid fashion. This may explain McDonagh's assertion that there is but one disease, which he defines as the signal of defeat which the protein particles of the host suffer at the hands of an invader.

AGRANULOCYTOSIS WITH CASE REPORT*

GEORGE PARKER, M. D.,
PEORIA, ILL.

Agranulocytosis is a name given to a condition first described by W. Schultz[26] in 1922 and considered by him a definite clinical and pathological entity of unknown cause. The validity of this view having been seriously questioned by other investigators has resulted in a varied nomenclature such as, Angina Agranulocytica, Friedman;[9] Mucositis Necroticans Agranulocytica, J. Weiss;[30] Agranulocytosis Septicemia Simplex, Vladimir Jedlica;[16] Agranulocytopenia, David;[6] Sepsis Agranulocytica, Feer.[8] That the agranulocytic complex accompanies other diseases than the definite entity first described by Schultz[26] is well demonstrated in the accumulative literature since 1922.

Briefly, the main characteristics as described by Schultz[26] are as follows: The patient, usually a middle aged woman, previously in good health, is taken suddenly ill with a sore throat, dysphagia, chills, high fever, rapid pulse and prostration. Ulcerative, necrotic and gangrenous lesions involving the mouth, throat, and other mucous membranes are found. Local lymphadenopathy is present. A mild jaundice occurs in about half of the cases. The liver and spleen are enlarged. The blood shows a leucopenia, which to be characteristic according to Schultz,[26] must give a count as low as 2,000 and may even fall as low as 100. The granulocytes are greatly decreased and may entirely disappear. The lymphocytes are relatively increased. Hemorrhagic diathesis is not a part of the typical case. The autopsy findings show a bone marrow grossly red in color, microscopic preparations from which reveal an almost complete absence of granulocytic cells. Granulocytic cells are absent also around necrosing and gangrenous lesions. Death occurs in three to four days, usually from broncho-pneumonia.

The exact etiology of agranulocytosis is unknown. Mouzon,[21] Roch, and Mozer[25] were inclined to place it in relation to the acute leukemias. J. Zikowsky[34] asserts that it is a form of severe sepsis usually due to a streptococcus, which causes a crippling of the leukopoietic system. He reports two cases, in which, streptococci were cultured from the blood. Feer,[8] J. Weiss,[30] V. Weiss,[31], Turck,[28] and Zadek[32] are also of the opinion that certain bacteria may have a special affinity for and toxicity to the granulocytic system. Friedman[9] says that after careful examinations of the blood and internal organs he can not accept this conclusion. There may be some unknown virus which excites the disease, but infectious etiology has not yet been proved. He thinks the positive bacterial blood findings are due to secondary infection as a re-

*Read before Illinois State Medical Meeting, Section on Medicine, May 21, 1930.

sult of the absence of protective polymorphonuclears.

Predisposing or exciting factors in relation to etiology have been reported. H. P. Hill[11] says that it has repeatedly followed extraction of teeth. Bromberg and Murphy[4] report a case following prophylactic typhoid vaccination. Meyer and Rosenberg,[19] a case developing in a debilitated, cardio-vascular-renal patient, aged 55. Aubertin, Bancstine, and Lehman[2] report two cases in syphilitic patients treated with acetylarsan and bismuth, and Jacquelin Celice, and Langlas[15] a case following the administration of arsphenamine. R. J. Hunter[14] published a report of a case following fracture of the tibia. It has been known to exist after ill health from other causes—Wm. C. Heuper,[13] but past history seems to have no special influence as a predisposing cause. In Kastlin's[17] review, 27 cases out of 43 gave negative past histories.

As to geographical distribution, the disease is more prevalent in Germany, Austria, United States and Canada. More cases have been reported from Germany, probably because it was first described by Schultz,[26] wherefore German clinicians have been more alert in discovering and reporting cases.

The sex incidence shows a high percentage of cases in women between the ages of 30 and 50. Friedman[9] reported 29 cases—of which 24 were women and 5 men; 6 of these above 60 years of age. Kastlin reviewed 43, 78 per cent, of them females. Also J. Weiss[29] described a case developing at the end of a two weeks otitis media in a six year old girl; and Rudolph Bantz[3] found it existing in a four and a half year old boy. Wherefore it is evident that all ages are susceptible.

As the literature on this subject has increased, there now being about 125 cases published, the symptomatology has become more varied. All cases which have been reported, however, as agranulocytosis do not correspond to the clear cut description originally given by Schultz.[26] Therefore, in dealing with this disease which is of unknown etiology and pathogenesis, it will be necessary before a definite clinical entity can be undebatably established to collect and correlate from time to time the various symptoms as reported together with autopsy findings.

The blood findings at present may be summarized as follows:

1. Leukopenia 2,000 to 100, becoming lower as death approaches.

2. Granulocyptopenia—Friedman[9] states that to require the absence of all granulocytes for a diagnosis is too radical. They vary from 0 to 15 per cent. Immature forms are not present, but degenerative forms may appear.

3. A lymphocytic decrease following closely that of the granulocytic cells, but a relative lymphocytosis. The monocytes are sometimes temporarily increased; but the oxydase reaction for these cells is always negative.

4. The approach of red cells and hemoglobin to normal—Friedman[9] gives the range of red cell counts from 2,500,000 to 5,100,000.

5. Thrombocyte range 112,000 to 310,000.

6. Absence of hemorrhagic diathesis. Allan[1] reports a case of agranulocytic angina with thrombopenic purpura.

7. Normal coagulation and bleeding time.

8. Blood cultures negative as a rule. Of Friedman's[9] 26 cases, 20 showed negative cultures and 6 positive.

It is noteworthy that the ulcerative, necrotic, and gangrenous lesions occur in those parts of the body where, under normal circumstances, bacteria usually exist. The lack of polymorphonuclear defense is the probable explanation.

The mouth and throat lesions reported comprise the following symptoms well described by Hueper:[13] The tonsils when affected may show all gradations from a simple follicular tonsillitis to a gangrenous process. They are usually enlarged and reddened, showing whitish or yellowish spots some merging to a dirty gray or yellow coat, on removal of which an ulcerated surface appears. They may be greenish or black and the gangrenous tissue may slough leaving only small stumps. The tonsils may escape entirely or a paratonsillitis may occur. Throat bacteriology shows staphylococci, streptococci, pneumonococci, bacillus pyocyaneus, diphtheria, and Vincent's organisms. Similar necrosing, ulcerative, or gangrenous processes may occur as an extension or as an independent process on the pillars, uvula, palate, pharynx, larynx, tongue, and gums. Gingivitis was especially marked in a case reported by Schultz,[26] in which the patient had first consulted a dentist.

In addition to the mouth and throat lesions, similar ones have been found involving the vulva, vagina, cervix, esophagus, stomach, duodenum, ileum, colon, rectum, and anus. W. Schultz[26] reports a case in a 28 year old woman, in which a piece of intestinal mucosa the size of the palm of the hand was extruded from the anus. That this was mucosal tissue was proved microscopically and its sloughing was followed by rectal stenosis.

The gastro-intestinal symptoms reported include nausea, vomiting, diarrhea, flatulence, abdominal pain and tenderness. Petri.[24] A noteworthy case was reported by Edith Peritz,[23] which masqueraded under the picture of a cholecystitis.

The liver and spleen may both be enlarged, but more often the latter organ. The heart is normal. In some cases toward the end the lungs show a broncho-pneumonia. C. Hirsch [12] reports a case of double lung gangrene. The urine shows varying degrees of albuminuria, hyaline and granular casts, red and white cells, urobilin and urobilinogen.

Symptoms referable to the nervous system are headache, restlessness, and delirium. The skin shows a variety of lesions. Petechial hemorrhages are rare and scanty. Jaundice occurs in 50 per cent. of cases. Elkeles[7] reports vesicles; Lawrence K. Grundum,[10] a small papular rash with pruritus; Zikowski,[33] vesicles with streptococci lymphangitis; Schultz,[26] an erysipelatous redness on the extremities and a paplar rash on the thighs. Herpes, labialis and nasalis are common. There is no generalized adenopathy, but the submaxillary and cervical glands are enlarged and tender. Schultz[26] reports necrotic conjunctivitis and edema of eyelids. The eye grounds are always negative.

Autopsy reports include the following findings which have been verified by different investigators:

1. All necrotic, ulcerative and gangrenous lesions reveal by the absence of leukocytes a failure of the usual cellular response to inflammation.

2. The bone marrow shows an absence of neutrophilic polymorphonuclear cells. The red blood cell germinal centers and megakarocytes appear normal. The white cell elements are made up almost entirely of lymphoid and endothelial cells. Cells positive for oxydase are rarely seen.

3. The spleen is usually enlarged, dark red and moderately firm, but never soft as in septicemia. On cut surface the lymph follicles are not prominent. The sinuses are well filled with erythrocytes, proliferated reticulo-endothelial cells, and lymphoid cells. The former may outnumber the latter. Cells positive for oxydase are in general completely absent or only scantily present.

4. The submaxillary, cervical, peribronchial and mesenteric lymph nodes are generally enlarged and sometimes show hemorrhages. Microscopically they show atrophy of the lymph follicles and proliferation of the reticulo-endothelial cells.

5. The liver and kidneys show evidence of cloudy swelling.

6. The pleura, pericardium, and endocardium show frequent evidence of subserous hemorrhages.

7. The lungs present areas of bronchopneumonia with lack of polymorphonuclear response.

8. In any part of the gastro-intestinal tract swelling of the lymph follicles, hemorrhages, erosions, or ulceration may be found.

In the differential diagnosis of agranulocytosis the greatest difficulties are experienced in excluding the true blood diseases.

1. Aleukemic myelosis may show a blood picture which at first is confusing, but which later tends to assume the leukemic form, especially with reference to the differential count. There are usually some myeloblasts present, which are always absent in agranulocytosis. In cases remaining aleukemic throughout and not showing qualitative differences in the white cells, the diagnosis must rest either upon bone puncture or autopsy findings.

2. Aleukemic lymphadenosis may be still more difficult to differentiate because the pathological cell forms are not so characteristic as in the myeloid form.

3. Acute leukemias with onset of high fever, enlarged lymph nodes and leukocytosis show bleeding from the mucous membranes before necrosis and gangrene occur. Abnormal cells are always seen in the blood smear. An anemia of severe grade and thrombopenia oppose the diagnosis of agranulocytosis. No cases of agranu-

locytosis have shown frank evidence of leukemia at autopsy and the present opinion is that agranulocytosis is a reaction which is not of the leukemic type.

4. Aleukia described by Frank is a severe disease with high fever and mucous membrane necrosis and high grade leukopenia. It is differentiated by the severe anemia of aplastic type, hemorrhagic diathesis and thrombopenia. This disease, according to Friedman,[9] may be closely related to agranulocytosis.

5. Aplastic Anemia offers no difficulty unless angina and high fever be present, in which case the differentiation may be impossible.

6. Sepsis. Zikowsky,[34] Turk,[28] Marchand,[18] Stursberg[27] and Paroulek[22] describe cases of sepsis which show neutrophilic leukopenia and relative lymphocytosis. Gangrenous stomatitis, angina, hemorrhagic diathesis, anemia, and thrombopenia are present. All have positive blood cultures and show at autopsy foci of sepsis with a septic type of splenitis. While the course of this disease is clinically similar to agranulocytosis, there is, however, only a small percentage of the latter showing evidence of sepsis with positive blood culture and few have infectious lesions prior to the time of acute onset. Because of the similarity of response in infection, writers suggest an inclusive nomenclature, such as, "Sepsis with granulocytic decrease," David,[6] and "Sepsis Agranulocytica," Feer.[8]

7. Diseases showing necrosing processes in the mouth, but without an agranulocytic symptom complex offer little difficulty of differentiation. Diphtheria, Vincent's angina, septic sore throat, and monocytic angina may be mentioned.

8. Diseases showing at times an agranulocytic complex but absence of mucosal necrosis and gangrene are pernicious anemia, carcinoma, Hodgkin's disease and miliary tuberculosis. The differentiation is usually easy.

9. Poisons producing an agranulocytic leukopenia, such as arsenic, benzol, thorum, and Roentgen ray may be ruled out by the history.

It should be remembered that the differential diagnosis of agranulocytosis from similar diseases finally rests on the composite clinical picture and not on the various symptoms.

The prognosis of agranulocytosis is unfavorable. Death usually occurs in two to seven days, but a few cases run a more extended course lasting several weeks. Remissions may occur lasting from a few days to several weeks. Friedman[9] reports a recurrence after six months, Moore and Wieder[20] one after two years. The prognosis is more unfavorable in cases with severe mucous membrane lesions. Friedman[9] gives the mortality in his series as 91.6 per cent.

The treatment of agranulocytosis shows by its variety its ineffectiveness. Friedman[9] reports the recovery of six cases after very small doses of Roentgen ray over the long bones. He gives 1/20 of a skin unit surface dose, deep therapy with .6 m.m. copper filter. Two treatments are given with one day intervening and frequent blood counts made to watch the effect. Call,[5] Gray and Hodges also report recovery in a case after the use of Roentgen ray.

In view of the comparatively normal red cell count and hemoglobin with increase of thrombocytes, it would seem that blood transfusion is not indicated. As a matter of fact it has been ineffective except in cases of so-called sepsis agranulocytica. In the latter condition antistreptococcic serum has produced some cures, Zikowski.[34]

Diphtheria antitoxin, leucocytic extract, the various silver compounds, acridine dyes, mercurochrome, sodium cacodylate, arsphenamin and methenamin have been used without favorable effects.

REPORT OF CASES

W. F., referred by Dr. H. W. Brink of Delavan, Illinois, female, aged 53, married, multipara, periods regular until December, 1928, since then only one menstruation. No history of previous illnesses except an operation for nasal polypi and ethmoiditis performed by Dr. Gailey of Bloomington, Illinois.

On July 20, 1929, she developed a sore throat and felt feverish, but did not go to bed. This condition continued to grow worse until July 29 when she called a physician who found her very ill with a temperature of 103°, severe angina with dysphagia, backache, and marked prostration. She was admitted to St. Francis hospital on August 1 with temperature of 103°, pulse 110, respiration 22 and the above symptoms prominently in the foreground. In addition she showed a mild delirium with severe headache and general muscular pains. The tonsils were enlarged to the point of approximation, reddened and covered with follicular patches. The pillars were hyperemic. A mild gingivitis was present. Marked fetor ex ore was noted. Smears and cultures showed the presence of diplo-streptococci and chains of streptococci. Cervical adenopathy was present, but not marked. Cervical tenderness more marked on left side. The patient expectorated considerable purulent secretion from post nasal space.

Other physical findings at this time were soft systolic murmur at apex; palpable spleen two fingers below costal margin, soft in consistency; an acute hyperemic area on the cervix, the size of a dime. The white blood count showed 1,300 cells of which 50% were polymorphonuclears, 44% small lymphocytes, and 6% large lymphocytes. The urine contained a moderate amount of albumin with a few hyaline casts. On August 2 to August 5 the temperature was irregular, ranging from 99 to 101.4, pulse range from 88 to 110, respiration 20 to 26. The blood pressure was 110/60. During this period the sore throat and dysphagia continued. There was considerable nausea and on one occasion she vomited a large amount of greenish fluid. She had gas pains and abdominal distension with tenderness in the lower abdomen. She was talkative, mildly delirious, and restless.

On August 3 the hemoglobin was 66%, red cells 3,400,000, white count 1,000. Polymorphonuclears 11%, small lymphocytes 60%, large lymphocytes 29%. The morphology showed nothing noteworthy, the platelets were greatly increased in number, coagulation time 7 minutes (Boggs), bleeding time 2 minutes (Duke), Kahn test negative, blood cultures negative, Widal negative. The feces were negative for occult blood.

On August 4 a mild jaundice was noted. The tonsillar patches had disappeared, but one large crypt in the left tonsil showed necrotic edges, was filled with detritus, cultures from which showed diplo-streptococci. From August 5 to September 9 the temperature range was 98 to 99.4. On August 8 the gums were swollen and tender and the bowels were loose. August 9 a mild urticaria developed. Examination of eyes by Dr. C. D. Sneller at this time showed icteric conjunctiva, pupillary reactions normal to light and accommodation, eye fundi showed slight pallor of discs and retina, no hemorrhages or exudate. Dr. Sneller reported evidence of ethmoiditis with some mucopurulent nasal discharge. The throat was still sore and whitish adherent membrane was noted at the mouths of a few crypts. This membrane extended down into the crypts. No diphtheria bacilli or Vincents angina organisms were present.

On August 11 she complained of tightness in the chest and coughed a great deal without production. The lungs were negative. On August 12 her face was swollen, more prominently around the eyes. The urine contained a trace of albumin, no casts, 25 pus and 10 red cells per field. On August 17 she passed a few clots, of bright red color, in stool. There was noted the presence of a fine papular red rash on abdomen and back August 14.

Patient was discharged from hospital September 13 with blood count of 4,000 white cells, 44% polymorphonuclears, 41% small lymphocytes, 15% large lymphocytes. Since her discharge on September 13 she has been kept under observation and her general condition has shown gradual improvement. She has, however, complained of easy fatigability and intermittent sore throat. Her leukocyte count has never returned to normal, except on August 7 when it reached 7,800 with 75% polymorphonuclears, 19% small lymphocytes and 6% large lymphocytes.

Schilling differential counts were made with the following results:

	On Sept. 3	On Sept. 21	On Oct. 7
Total	3600	3200	2600
Myelocytes	0%	0%	0%
Young forms	3%	3%	0%
Staff forms	11%	6%	2%
Segmented forms	19%	27%	10%
Basophilics	0%	1%	4%
Eosinophilics	0%	0%	1%
Lymphocytes	41%	54%	63%
Monocytes	26%	9%	20%

A summary of her blood findings from the time of her admittance to the present follows:

Date	White Count	Granulocytes	Small L.	Monocytes	Red Count	Haem.	Platelets
Aug. 2	1300	50%	44%	6%			
Aug. 3	1000	11%	60%	29%	3,400,000	66%	Increased
Aug. 4	1800	40%	48%	12%			
Aug. 7	7800	75%	19%	6%			
Aug. 9	5000	81%	15%	4%			
Aug. 12	3400	82%	14%	4%	3,700,000	74%	
Aug. 14	3400	85%	11%	4%			
Aug. 16	2600	83%	12%	5%			
Aug. 19	5200	73%	22%	5%			
Aug. 21	2600	78%	11%	11%			
Aug. 23	2600	67%	22%	11%			
Aug. 26	2800	33%	58%	9%			
Aug. 28	1200	36%	50%	14%			
Aug. 29	...	...	...	...	... 4,080,000		
Aug. 31	2800	42%	41%	17%			
Sept. 2	3600	41%	44%	15%			
Sept. 4	3800	42%	44%	14%			
Sept. 6	3800	40%	47%	13%			
Sept. 9	4000	59%	27%	14%			
Sept. 11	4000	49%	33%	18%			
Sept. 13	4000	44%	41%	15%			Increased
Sept. 21	3200	37%	54%	9%	4,408,000	69%	Increased
Sept. 22	2000	29%	59%	12%			
Sept. 23	4200	30%	55%	15%			
Sept. 24	4000	31%	60%	9%			
Oct. 7	2600	17%	63%	20%	4,288,000	68%	Increased
Nov. 1	2800	52%	30%	18%	4,400,000	76%	Increased
Dec. 6	2600	54%	34%	12%	4,800,000	77%	Increased
Jan. 3	2600	34%	44%	22%	4,824,000	84%	Normal
Mar. 14*	1750	44%	52%	4%	4,520,000	70%	
Feb. 5*	2300	41%	55%	4%	4,370,000	79%	
May 6	2800	57%	25%	18%	4,560,000	77%	

The treatment of this case was rather fanciful. She was given bone marrow, yeast and a diet stimulative to the bone marrow, such as red meats, liver, fruits and vegetables. Leukocytic extract and sodium cacodylate were tried. In September, when a relapse took place, she was given two x-ray treatments over the long bones by Dr. Perry B. Goodwin, following the technique of Friedman. Whether or not any of these measures did any good, I am unable to say. The

*Counts made by Dr. B. B. Sory, Jr., Lake Worth, Florida, who reports bleeding, ulcerated hemorrhoids, and intermittent sore throat during a two months' rest in the South.

case has made an apparent clinical recovery and with the exception of some fatigue is enjoying good health. The persistence of leukopenia and granulocytopenia, however, may forewarn a severe relapse at some future time.

Summary: The entire subject of agranulocytosis is reviewed. A case is reported having the following characteristics:

1. A middle aged woman with negative past history excepting ethmoiditis.
2. Fever, increased pulse rate, marked prostration, mild delirium.
3. A follicular tonsillitis with slight necrosis around the crypts; stomatitis, fetor ex ore.
4. Slight cervical adenopathy with tenderness and dysphagia.
5. A mild jaundice.
6. Nausea, vomiting, abdominal pain, diarrhea.
7. Enlarged spleen.
8. Absence of hemorrhagic diathesis.
9. A marked leukopenia of 1,000 with 11 per cent. granulocytes, a relative lymphocytosis and negative blood culture.
10. A slight secondary anemia of short duration with continued increase of platelets.
11. An apparent clinical recovery, but persistence of leukopenia and granulocytopenia after 10 months.
12. The question of chronic ethmoiditis as an etiological factor and cause of the persistent blood picture to be considered.

BIBLIOGRAPHY

1. Allan, Wm.: Agranulocytic Angina with Thrombopenic Purpura, Annals. Int. Med., Dec., 1928, 2: 542-544.
2. Aubertin, C., Bancstein and Lehman, P.: Agranulocytosis in Patients Treated with Acetylarsan, 2 cases, Bull. et Mem. Soc. Med. d. hop. de. Paris, June 3, 1929, 53: 678-682.
3. Bantz, R.: Agranulocytosis, Munchen. Med. Wchnschr., 1925, 72: 1200-1201.
4. Bromberg and Murphy: Agranulocytic Angina Following Prophylactic Typhoid Vaccination, J. A. M. A., Apr. 13, 1929, 92: 1266.
5. Call, M., Gray, B. H., Hodges, F. M.: Agranulocytosis, Case with Recovery, Am. J. Roentgenol., Dec., 1928, 20: 550-551.
6. David, W.: Agranulocytosis, Med. Klin., 1925, 21: 1299-1331.
7. Elkeles, A.: Agranulocytic Angina, Med. Klin., 1924, 20: 1614-1616.
8. Feer, W.: Contribution on Question of Agranulocytosis, Schweiz. Med. Wchnschr., June 5, 1926, 56: 551-555.
9. Friedman, Prof. U.: Angina Agranulocytica, Ztsch. f. klin. Med. 1928, 108: 54-66.
10. Grundum, Lawrence K.: Agranulocytosis, Case, Arch. Int. Med. Mch., 1928, 41: 343-345.
11. Hill, H. P.: Acute Leukemia and Agranulocytic Angina Associated with or Following Removal of Teeth; Report 4 Cases, Calif. and West. Med. Nov., 1926, 25: 609-612.
12. Hirsch, C.: Agranulocytosis, 6 Cases, Munchen, Med. Wchnschr., May 6, 1927, 74: 762-765.
13. Hueper, Wm. C.: Agranulocytosis (Schultz) and the Agranulocytic Complex, Arch. Int. Med. 1928, 42: 893.
14. Hunter, R. J.: Agranulocytic Angina; Case with Fracture Tibia, Laryngoscope, May, 1926, 36: 348-352.
15. Jacquelin, Celice and Langlas: Agranulocytosis Following Administration of Arsphenamine, Bull. et. Mem. Soc. Med. d. hop. de Paris, Jan. 21, 1929, 53: 8-17.
16. Jedlica Vladimir.: Agranulocytosis, Case, Sang. 1928, 2: 10-28.
17. Kastlin, Geo. J.: Agranulocytic Angina, Am. Jour. Med. Sc., June, 1927, 173: 799.
18. Marchand: Unusual Lymphocytosis in Early Infection, Deutsch. Arch. f. Klin. Med., 1913, 110: 359-372.
19. Meyer and Rosenberg: "Agranulocytopenia"; "Sepsis Agranulocytica" (Agranulocytic Angina) Med. Clin. N. A. Mch., 1930, 13: 1195.
20. Moore and Wieder: Agranulocytic Angina, Report of a Case with Two Attacks, J. A. M. A., Aug. 15, 1925, 85: 512-513.
21. Mouzon.: Agranulocytosis, Presse. Med. Oct. 9, 1926, 34: 1269.
22. Paroulek, J.: Agranulomyeloblastic Septicemia Cured by Repeated Transfusions of Blood. Arch. d. Mal. du. Coeur 1927, 20: 648-664.
23. Peritz, E.: Agranulocytosis Simulating Cholecystitis, Case. Zentralbl. f. Chir. August 20, 1927, 54: 2129.
24. Petri, E.: Grave Changes of Whole Digestive System in so Called Agranulocytosis, Deutsche. Med. Wchnschr. July 25, 1924, 50: 1017-1018.
25. Roch and Mozer.: Angina Agranulocytica, Schweiz. Med. Wchnschr. 1926, 56: 551.
26. Schultz, W.: On Different Throat Affections, Deutsch. Med. Wchnschr., 1922, 48: 1495.
27. Stursberg, H.: Differential Diagnosis between Acute Leukemia and Sepsis, Med. Klin., 1912, 8: 520-523.
28. Turck, W.: Septic Diseases with Destruction of Granulocytes, Wien. Klin. Wchnschr., 1907, 20: 157-162.
29. Weiss, J.: Case, Wien. Arch. inn. Med. 1927, 14.
30. Weiss, J.: Mutual Relations of Schultz's Syndrome, (Agranulocytosis) Acute Leukemia and Septic Infection, Wien. Arch. f. inn. Med. May, 1927, 14: 303-334.
31. Weiss, V.: Lymphatic Reaction and Agranulocytosis in Lethal Sepsis, Ztschr. f. klin. Med. 1927, 106: 617-627.
32. Zadek, I.: The Agranulocytic Question, Med. Klin., May 8, 1925, 21: 688-690.
33. Zikowsky, J.: Agranulocytosis, Wien. klin. Wchnschr. 1927, 40: 1376-1420.
34. Zikowsky, J.: Agranulocytosis as a Septic Disease; 2 Cases Cured by Antiserum, Wien. klin. Wchnschr, 40 1376, Nov. 3, 1927; 1420 Nov. 10, 1927.

Peoria Life Building.

DISCUSSION

Dr. Warren Pearce, Quincy: Dr. Parker's paper is most interesting and his review of the literature on this subject, commanding so much attention at this time, has been very complete. Considerable uncertainty exists as to whether or not this condition is a definite disease entity. Many clinicians regard it as a symptom complex resulting from an over-powering infection. The opinion has been advanced that it is a hereditary inability of the bone marrow to produce the granular cells. Certain case reports, however, have made this hypothesis untenable, notably the case reported by Call, Gray and Hodges, referred to by Dr. Parker in his paper. In this case the patient recovered and the blood returned to approximately normal. There is only one constant in agranulocytosis, viz., the absence, or almost complete absence, of granular cells in the blood. Schultz, himself, objects to the term agranulocytic angina, stat-

ing that the angina does not always occur early, frequently occurs late and at times is not present at all and has no etiological relationship.

Blumer has very recently reported a group of cases —in four of which, either the teeth or gums were involved and I should like to refer very briefly to a case in my practice, in which there was such involvement. It is of some interest since the patient was a child and very few cases have been reported in children. This case will be reported in detail elsewhere. The patient was a male, aged five years, who was brought to my office by his mother, who did not consider him ill but had noticed a slight swelling in his submaxillary region the day previous. Physical examination was negative with the exception of an enlarged submaxillary gland and a small tumefaction of the gum at a corresponding location. The temperature and pulse were normal. The following day the boy became acutely ill and died within thirty-three hours from the onset of the acute symptoms. The erythrocytes numbered 3,750,000; the leucocytes 3,200, with total polymorphonuclear cells six per cent.—all segmented. The hemoglobin was seventy per cent. X-ray of the chest was negative in all respects. The thymus was not enlarged. The urine and spinal fluid were negative. Blood culture was positive, a short chain streptococcus being present. (Blood cultures have been positive in many reported cases.) Permission for autopsy was refused. The gland was removed, however, and the examination disclosed a lymph cell hyperplasia.

Dr. N. S. Davis, III, Chicago: I would like to cite two cases seen during the last few years. One was a man whom I had had under treatment for some time because of chronic constipation and hypotension. His systolic pressure was 85 or 86, a case such as was described by Kendall at this meeting last year. About a year before his final illness he had a Vincent's angina, ulcers in the mouth, which cleared up promptly. He developed an acute sore throat with fever. The sore throat persisted and he came to the hospital, where we found an agranulocytosis. He developed dry gangrene of the perineum and of one extremity and died about a week after onset of the symptoms. The other case was a janitor seen last fall. For several weeks he had been getting weaker, with loss of appetite and a little temperature. Physical examination was negative except that the spleen was enlarged to percussion and palpation. The throat was negative. There was nothing to account for the temperature. He went down hill steadily and died after a couple of weeks in the hospital. Postmortem findings were essentially negative except for the condition in the lymph glands and spleen, as described by Dr. Parker. It looked like sepsis agranulocytica. Every once in a while we get a case for which this seems to be the only explanation. It is just the description of a symptom complex and not a distinct disease, because the etiology is decidedly varied in various cases.

Dr. S. E. Munson, Springfield: On account of a very unusual case of leukemia, which came under my observation last winter, on which some studies are still being made, I reviewed some of the recent literature on agranulocytosis. I think the thing that is much needed is greater study and observation to determine the probable cause of the leukocytosis in this disease. Probably many cases have been unrecognized and have died of what was considered septicemia. I think this splendid presentation brings before this section a very excellent conception of this disease, so that we will probably have more cases studied and reported in the future. In this way it will be determined what peculiar reaction to infection causes the change, which brings about the condition of granulocytopenia.

Dr. L. D. Snorf, Chicago: I would like to take the opportunity of mentioning one instance of what I consider a true agranulocytosis. I shall not discuss the course of the patient's condition except to mention one or two things. The onset, and the progress throughout the acute infectious stage was very similar to that described by the various authors. The individual loses weight, there were 280 white cells with 4 per cent. granulocytes. The therapy I dare say had nothing to do with making the patient well. We used everything mentioned in the literature, and finally the man made a satisfactory recovery in spite of the therapy. The thing that is important was that it required about six weeks before the blood count got back to beyond 3,000. Over a period of four months it never rose above 4,000. That count was taken in various parts of the country by different men in different towns, because the patient was very much interested in his condition. He then came back with the idea that tonsillectomy would be a valuable thing. He had had a sore throat at the beginning of the condition, and this I think I did not give sufficient consideration to, and rather tolerated the idea of having a tonsillectomy, knowing about the blood count of 4,000 and the continuous depression of leucocytes. The tonsillectomy was done by a very excellent surgeon. The course was not unusual for six days, then he began to run a temperature which gradually rose, with depression of the polymorphonuclears, and the white count under 4,000 gradually coming down to 2,000, and he succumbed to what was apparently an agranulocytosis. There was no evidence at any time of a septicemia, though the picture was that of a septicemia in a general way. I wonder after all if agranulocytosis, as we call it, is a disease entity, and evidence of paralysis or depression, or a congenital condition of the bone marrow; and whether we are justified in following Friedman's contention that it should not be diagnosed as agranulocytosis until the cells are below 2,000. Here is a case with 4,000 coming down to 2,000 following trauma. It makes me feel that we should pay close attention to the blood count in these leucopenias, and particularly pay attention to the defensive count in these leucopenias with sepsis.

Dr. George Parker, Peoria (closing): Dr. Snorf mentioned the possibility of agranulocytosis being a congenital condition. There is one strong argument against it—the fact that more cases do not occur in infancy and childhood. In this period of life, many common diseases such as scarlet fever, measles, diphtheria,

and the like are contracted; yet agranulocytosis is uncommon.

Another point raised by Dr. Snorf is the advisability and danger of operation on such cases. His report of a fatality after tonsillectomy is of considerable importance. The case I have just reported has had a tonsillectomy recently at a clinic in another city; and I shall be interested to see whether or not the same fate awaits her.

From a prognostic standpoint the remarks of Dr. Pearce are significant and should teach us that the discovery of necrosing and ulcerative lesions in the mouth or elsewhere should be accompanied by a careful study of the blood before a prognosis is given.

TULAREMIA
WITH REPORT OF TWO CASES

FRANK J. JIRKA, *M. D.*
CHICAGO

Prior to 1924 tularemia was considered a rare disease, only fifteen cases having been reported in the United States. In 1928 800 cases were reported and in Illinois alone during 1929 there were thiry-six cases, and from January to June, 1930, a similar number. Undoubtedly there have been more cases but they have not been recognized. At the present time tularemia is a reportable disease in the state of Illinois.

Tularemia is an infectious disease caused by the Bacterium tularense. In animals it occurs as a fatal bacteremia, but in man it results secondarily from direct contact with the tissues or body fluids of an infected animal, or indirectly from animal to man by certain ticks or flies. In man it has never been transmitted from cooked food.

The disease has its seasonal incidences east and west of the Mississippi River. East of the River it usually occurs when the rabbit is permitted to be hunted and marketed, that is, November to January. West of the Mississippi it occurs usually from June to September, when due to deer flies, and from February to October when due to tick bites.

It has been transmitted by deer flies, rodents, muskrat, opossum, woodchuck, rough grouse, blue grouse, quail and sheep.

Tularemia manifests itself in man in four clinical types, and the incubation period is from one day to one week. The three most common clinical types are:

1. *Ulcero-glandular type.* This is the most common form. A primary papule develops at the site of inoculation, usually on the finger or hand. Two to four days later the patient complains of grippe-like symptoms—fever, chills, profuse sweats, pains in back or extremities, temperature 103 to 104, and marked prostration. These symptomatic manifestations of infection persist for two to three weeks.

The papule rapidly becomes swollen and painful, and suppurates in the middle, discharging a necrotic core and leaving a slowly healing ulcer. The ulcer varies in size from one-fourth to one-half inch, is sharply circumscribed with an elevated reddish periphery and a grayish red necrotic base. A lymph adenopathy, resembling sporotrichosis, develops in the regional lymph nodes draining the site of inoculation, the glands varying in size from a bean to a walnut, and the ones distal to the site of inoculation being the largest. In my two cases herewith reported, the axillary, supra- and infraclavicular glands were greatly enlarged. The glands remain enlarged for two to six months and need not be incised unless suppuration is present. Incision of the primary lesion is futile because the lesion is a granuloma.

Convalescence usually is very prolonged.

2. *Oculo-glandular type.* The primary condition is a conjuctivitis with lesions on the palpebral conjunctiva and with an enlargement of the regional lymph nodes. The symptoms are those of a severe conjunctivitis, and generalized, as in the ulcero-glandular type.

3. *Typhoid type.* This variety presents no primary lesion and rarely a glandular enlargement. Fever is the outstanding symptom, and the remissions are usually accompanied by profuse perspiration.

Most of the cases occur among laboratory workers. It has been shown experimentally and clinically that the germ may pass through the unbroken skin.

Blood Findings. The blood findings of a tularemic infection are not characteristic except for agglutination. The leucocyte count varies from 10,000 to 15,000. The agglutinins are absent during the first week, but occur during the second week and reach their maximum from the fourth to the seventh week (1:1280 or 1:2560). There is then a gradual decline, although agglutination has persisted for twenty years.

Diagnosis. First, keep the disease in mind.

Look for a history of contact with transmitting animals, insects or birds.

Second, influenzal symptoms.

Third, glandular enlargements—sporotrichosis-like.

Fourth, agglutination test. Collect four to five cubic centimeters of blood as for a Wassermann test and send to the nearest State Bacteriologist.

Treatment. The treatment is primarily prophylactic and then symptomatic.

(a) *Prophylactic:* All persons handling wild rabbits should wear rubber gloves. Hunters, farmers and butchers should be warned about the danger of infection.

(b) *Symptomatic:* The treatment is purely symptomatic, as no specific vaccine has been developed as yet.

CASE REPORTS

Mr. A. K., aged 43 years, by occupation a butcher. While selling rabbits he does not recall whether or not he pricked or scratched his left index finger, but on November 29, 1929, he was suddenly taken sick with severe body pains, chills and fever. He treated himself for several days for a "cold." When first seen by me on the sixth or seventh day he had a temperature of 102°, was prostrated and bed ridden.

Physical examination was negative except for a circumscribed area of suppuration on the dorsum of proximal phalanx of left index finger. A sporotrichosis-like lymphadenitis was present on the left upper extremity.

During the second week the area of infection on the finger developed an ulcerated appearance, about three-eighths of an inch in diameter. The ulcer gradually healed from the third to fifth week. The glands in the axilla became markedly enlarged and the supra- and infraclavicular glands more so, the latter the size of a lemon. During the third and fourth week the infraclavicular glands suppurated and had to be incised. During the third and fourth week blood was withdrawn from the patient's basilic vein and an agglutination of 1-320 was reported.

The patient made a slow recovery. Six months after the onset a glandular enlargement was still present but of a perceptible degree.

The second case is that of Mr. Charles K., aged 41, also a butcher. He was taken sick on November 30, 1929, with symptoms of influenza and a temperature of 103°. On the third or fourth day he developed a severe cough. During the second week he became delirious.

He was first seen by me during the latter part of the second week, having previously been treated for pneumonia. Physical examination revealed a delirious, markedly prostrated and emaciated man, the emaciation being due to his profuse sweats and dehydration. Temperature was 104°. The lungs showed evidence of a bronchopneumonia. There was a marked lymphadenitis on the upper left extremity. On the dorsum of the left thumb at the distal interphalangeal joint, a dirty ulceration was found. Prior to my seeing him the thumb infection had been treated by hot applications.

The delirium subsided during the third week and a history was then obtained, that two or three days prior to the onset of his illness while skinning rabbits he had scratched his left thumb. The infected area became quite sore and then the glands enlarged. During the latter part of the fourth week the blood showed an agglutination of 1-640.

In May, 1930, his glands were still markedly enlarged.

This case differs from the first case in that although the patient had more severe generalized symptoms, the local manifestations were not so severe. In neither case were the fingers swollen commensurately with the glandular enlargements, or as we would expect when due to pus-producing germ infections.

BIBLIOGRAPHY

Simpson, Walter: Tularemia, 1930.

TULAREMIA WITH CASE HISTORY

HARRY R. KEISER, M. D.
CHICAGO

Tularemia is often called Frances' Disease. Frances classifies the disease into three types:

1. Ulcero glandular. 2. Oculo-glandular. 3. Typhoid.

Up to 1924 only 15 cases were reported and since that time over 800. Ohio is the state having the largest number—92. Simpson alone reported 64 in Ohio. In Russia in 1928 there was an epidemic of over 200 cases. The natives were catching water rats for fur during a flood and thus contracted the disease. In Japan there have been many cases and they were called O'Hara's Disease.

Many animals, such as rats, mice, sheep, opossums, muskrats, rabbits and wood chucks, carry the disease. The dog is an exception. The disease is transmitted by blood sucking organisms such as the wood tic (most common) and the deer fly.

B. Tularemia is a gram negative, non-motile coccus bacillus that grows on cystine-glucose agar. The blood will often show a positive agglutination test several months after the original infection.

Pathology: Enlarged regional lymph nodes, with multiple yellowish-white foci of necrosis in spleen and liver. Subcutaneous abscesses along lymphatics. Necrotic nodules in the lungs.

Microscopic Pathology: Wall of abscess shows

multiple foci of caseous necrosis, surrounded by epitheloid and fibroblastic granulation tissue, containing many giant cells of the Langhans type together with diffuse lymphocytic and polymorphonuclear infiltration.

Summary:

1. History of butcher injuring finger and then skinning rabbits.
2. Original lesion—enlarged lymph nodes.
3. Constitutional symptoms: Generalized malaise, anorexia, chills, fever, muscle and bone aches, etc.
4. This patient had an involvement of his lung.
5. The tendency is often to call most anything the influenza without trying to make a positive diagnosis.
6. With winter returns the use of rabbits for food, so it is well to be on the alert. Tularemia is a world-wide disease and therefore not so uncommon if really looked for and correctly diagnosed.

CASE HISTORY

Patient J. Z. White, male, aged 33 years, a butcher by trade, and having a past history essentially negative except for lobar pneumonia in 1919.

On Dec. 3, 1929, the patient stuck his left thumb with a knife, apparently just puncturing the skin. The wound bled very little, some tincture of iodine was applied, and he continued working, no dressing being used.

Dec. 5 he dressed fifty frozen rabbits. His thumb was not sore, so he gave it no further attention.

Dec. 8, about 11 P. M., his left thumb began to pain and throb and he noticed that it was becoming red and swollen. He bathed it in hot boric solution for one hour and later fell asleep.

The following day he went to work but did not feel well. He noticed, in his left arm pit, a small lump which was not tender. His condition grew steadily worse until 11 A. M. it was necessary for him to quit work. He was then suffering with a severe headache, mild chills, and felt as if he had a fever. A physician was consulted, who diagnosed the condition as influenza and sent him home to bed. Hot applications were recommended and used on the swollen thumb. The patient complained of a severe sore throat on the following day, associated with pain in the left side of his chest, which was more marked on inspiration, and sharp and knife-like in character. There was some hemoptysis present. Constipation was also present with considerable abdominal distention and gas. Toward evening of the fifth day following inoculation the patient became comatose. His physician was again consulted and prescribed more medicine for the flu. The acute stage of the illness persisted for seven days, after which time the fever dropped and the patient began to show signs of recovery.

On Dec. 20 the infection of the left thumb broke down and discharged white pus for about one week. The mass in the left axilla increased in size, becoming more tender and painful.

The first part of January, the patient sought medical aid at a prominent hospital because of no marked improvement in his condition. At this time he noticed several small nodules under the skin on the medial aspect of the left arm and forearm. The patient was again informed he would soon be all right and was told to continue the use of hot applications to the left thumb.

The patient next noticed several small red spots appear on the thumb around the old lesion. These became hard, elevated, and would break down discharging pus.

On Jan. 24 the patient came to the Central Free Dispensary. Examination revealed an emaciated white male, complaining of a cluster of hard glands in the left axilla, larger than a hen's egg. On the medial aspect of the arm and forearm were four pea-sized nodules along the course of the lymphatics from the thumb to the axilla. These nodules were hard and freely moveable. There were also three red papules and a pustule on the distal phalanx of the thumb. Many moist rales were present in the left lower lobe of his lung but there was no dullness nor friction rub. Heart and abdomen were negative and the liver and spleen not palpable. A blood specimen was taken for agglutination test, which was returned positive 1/640 for B. Tularemia.

Feb. 7, the axillary glands were incised and drained, discharging about 50 c. c. of a thick gray-green pus. The patient was given a general tonic and advised bed rest for another week. The axillary glands soon stopped draining, the rales disappeared from the lungs, the anorexia improved, and his general condition soon showed a marked change, regaining his former weight and strength.

2260 Devon Avenue.

CHRONIC OTORRHEA*

W. P. WHERRY, M. D.
OMAHA, NEB.

An invitation to appear before this society is a distinct honor, and I, herewith, sincerely express my appreciation. I have, however, the rather subtle thought in my mind that perhaps your chairman was actuated by some ulterior motive when he assigned the subject to be presented. Chronic otorrhea has never been one of my hobbies.

It seems proper to confess at the outset that

*Read before Section on Eye, Ear, Nose and Throat, Illinois State Medical Meeting, May 21, 1930.

I am in doubt as how best to approach this discussion, since an address requires a careful digest of the available literature, which obviously is impossible in the time allowed. To present an original thesis requires an individual research premise, which in my instance, unfortunately is lacking. Your Doctor Shambaugh recently said:

"Show me a physician who has a long repertoire for treating chronic suppurative otitis media, and I can usually show you a man who has a confused idea regarding the pathology of these cases, and no clear idea of principles which must guide efficient treatment."

Knowing that I am within the confines of Dr. Shambaugh's home environment, obviously again I find myself laboring under a frank repressant. Further, in reviewing the literature and checking over my experiences, I am rather of the opinion that very few new ideas presented in the last decade have proven the test of time, and I find my concept of the subject much as it was several years ago.

Considering chronic otorrhea in the large, we see it as a graph of rising and falling opinions, fads, and foibles, disappearing as on some gigantic film. But in that irregular movement, certain real advancements stand out as peaks in a true scientific atmosphere, advances which once made are not forgotten. Accepting this theme as a premise, may I present, panoramically, so to speak, my impressions of this problem, the essential factors to be evaluated, the high points, in part, at least, that have proven of merit in my practice, and upon which I depend for a successful outcome in the main.

The study and control of chronic otorrhea presents a most complex problem. Many factors enter into the story, not only in the treatment, but also in the survey that must be made in establishing the etiology and the probable reasons for a continuance of the pathologic state. Scientific medicine hardly accepts the mere statement of a discharging ear as sufficient evidence from which to establish a final diagnosis, much less to warrant the development of a program of treatment. Aside from the abstract discharge, the presenting symptoms of extension into adjacent structures must be analyzed to determine whether this extension be within the mastoid area alone, the internal ear or the brain. It is necessary to know the status of demonstrable reflexes and other physical errors, not the least of which are sometimes cardiovascular changes. To accomplish this end, oftentimes consultation must be had with the ophthalmologist, the neurologist and the internist. I know of no pathologic state in the head section that requires more persistent study than chronic otorrhea.

In this connection, and as a part of this diagnostic survey, accurate knowledge must be had of deviations from the normal condition in the nose and throat. The presence of pathology here can, not only be causative, but also may minimize the effect of the aural treatment instituted. This menace arises both from surface contamination and from a lymphatic block—since to block the pharyngeal lymphatic chains of nasal origin, must cojointly limit these resisting agencies in the ear.

The work of Dean, Jeans, Marriott, Shurly, and hosts of other writers have proven very definitely that diet deficiency, improper home environment and errors in personal hygiene, are positive causal factors, and when present, must be considered in the final diagnosis, since from the diagnostic survey is constructed the plan of treatment.

In building up then the final diagnosis, gathering together the aural findings, and the relevant factors, an experienced operator realizes that to put the house in order is of primary importance, discounting the presence of an emergency, of course, and that treatment directed to the ear is of secondary importance, until this primary necessity has been accomplished.

I am constrained here to mention rather tersely the evident hearing loss. I have marveled in many of the cases coming to me just how little attention has been given this symptom. To me its accurate determination is of great importance, not only in estimating the areas involved, but also the consideration it should receive where the question of medical or surgical interference is debatable.

A syphilitic taint is not an unusual factor to be reckoned with in the treatment of chronic otorrhea, and although it is not always convenient to run routine Wassermanns, yet a careful audiometric reading will sometimes afford the necessary suggestion and warrant further investigation.

Aside from what has already been mentioned,

to discuss methods of diagnosis before an audience such as is present here, would be academic.

That medicine is being standardized there can be no doubt, perhaps in some instances to an unwarranted degree; and yet out of this movement has come many valuable steps forward and even some epoch making rules of procedure. One of these new standards pertains to the art of diagnostic pathologic expression—condensing, so to speak, a lot of information in a few words and yet telling the story. Along this line, and just as we are now rapidly typing many other diseases into grades 1, 2, 3, 4, so with chronic otorrhea I have been using the following classification in expressing the pathologic state of a given case.

GRADE 1

A. Mucoid type of eustachian tube origin, with a secondary middle ear involvement.
B. Periodic in character.
C. No particular interval changes in the drum membrane.
D. No particular pain during exacerbation.
E. Positive interval drum membrane changes, alteration in tone, retracted—noted as one plus.
F. Positive pain during exacerbation noted as two plus.

GRADE 2

A. Absence of part or all of the drum membrane.
B. Presence of seromucoid or mucopurulent discharge.
C. Periodic exacerbations.
D. Only moderate hearing loss.
E. No particular evident pains.
F. Positive hearing loss noted as one plus.
G. Positive pain during exacerbation noted as two plus.

GRADE 3

A. Absence of all or part of the drum membrane.
B. Purulent discharge.
C. Granulations or simple polypoid changes.
D. Ossicular necrosis.
E. Saprophytic odor noted as one plus.
F. Moderate hearing loss noted as one minus.
G. Positive hearing loss noted as two plus.
H. Possible extra aural extensions noted as three plus.

GRADE 4

Grade 3 with symptoms of extension
A. Labyrinthine
B. Cholesteatoma
C. Intracranial

The abstract necessity of committing one's opinion to a positive classification prompts more than ordinary care in diagnostic technic: satisfies, as stated, the trend of modern expression and above all clarifies one's records, not only as it applies to future observation, but is the more readily understood by an associate observer.

Having coordinated the facts and established the diagnosis in its entirety, I have found it an advantage to sit down and talk the situation over with the patient. There is a lot of psychology around a discharging ear; often times the patient has already interviewed other otologists, has had various systems of treatments tried, or perhaps has been advised by some altruistic friend of the intracranial possibilities. It is, therefore, necessary to know what attitude the patient has assumed and the opinion he or she has come to. Where the patient has very positively decided that surgical interference is necessary, and the pathologic state has been determined as grade 3, one, two or three plus, the otologist can hardly do other than advise surgery. On the other hand, if the patient exhibits the desire to follow what seems to be the best judgment of the examiner, then the otologist can, with propriety follow less strenuous measures. In other words, a firmly fixed fear complex in the mind of the patient is a definite symptom and must be given due credence in the final advice. There is no doubt in my mind but that many good ears have been saved from unscrupulous hands, where the otologist, feeling that he could not handle the case and follow the dictates of his conscience, has called in the services of a good neurologist to control the emotional state of his patient.

The treatment of chronic otorrhea is always medical, with surgical intervention, only as a part of the general program—the medical phase applying before and after; even in the presence of grade 4 pathology, which obviously is a surgical complex.

The time allotted me does not in any way permit a detailed discussion of the medical treatment. So many remedies have been presented to the profession, so many different types of technic, that I am constrained to follow my original intent, namely, stick to my practice. It is advisable, however, to keep in mind as many of the methods recommended as you can, since it has been my experience that no one system of treatment is always sure.

Regardless of the method to be used, the operator should realize the purpose of medical treatment, namely:

1. The elimination of necrotic areas.
2. The control of granulations.
3. The conversion of an unhealthy mucosa into as near a normal physiological mucous membrane as possible.

The elimination of necrotic areas can only be done with instrumentation, and then when seen.

The control of granulations, I have found, has been best handled with Silver Nitrate 40% to 60% in the simple type, and chromic acid or an actual cautery in the more frank type, often times repeatedly done.

The development of a normal physiologic mucosa usually offers the greatest difficulty. In this instance I have almost settled down to the instillation of ½% carbolic acid in benzoinol, used in the eustachian tube followed by gentle inflation. Gently packing 5% mercurochrome in the alcohol base well into the middle ear and leaving for an hour is often beneficial. I usually prescribe for home use alcohol containing ten minums each of carbolic acid and tr. iodine to the ounce. This routine assumes, of course, that the pathologic status of the adjacent parts as well as other relevant factors have been corrected, particularly where gentle inflation is to be used.

Powdered boric acid has been insufflated into the ear and allowed to disseminate. Seemingly satisfactory results have been obtained in selected cases, however, I have observed several rather awkward exacerbations excited by this method, where crusts of boric crystals were allowed to accumulate.

The instillation of ether through the canal directly into the aditus and middle ear, has had, it seems to me, a fair percentage of satisfactory results.

The use of iodine dusting powder, after the method of Sulzberger has been strongly recommended by Dr. J. C. Beck and others. My experience with this method has been too limited as yet for comment.

Mucidan and innumerable other agents could be mentioned.

Although unsatisfactory at present in my hands, I cannot help but feel that serology should have a place in the treatment of chronic otorrhea, particularly where the process is confined to the mucous membranes and drainage has been properly maintained. I am reasonably sure this phase of our treatment armamentarium will some day be better understood, particularly as our knowledge of the reticulo-epithelial defences increase and we appreciate more fully that the original causal factor need not be a direct reaction to a primary infection, but rather visualize the infection as an implantation upon a mucous membrane already reacting to an irritant having a selective affinity for the part—call it lowered resistance, familial, individual, whatever you wish. Just as we think of the threshold of tolerance in alergic manifestations, so we can parallel a threshold of tolerance within the middle ear to insults from without. Proper appreciation of such an hypothesis should permit the application of sound serologic treatment.

I have found the use of aqueous solutions harmful, and only use them when absolutely necessary for cleansing purposes. It is surprising how nicely a cavity can be cleared of discharge with a wick of cotton. The pressure usually exercised where cotton wrapped on an applicator is used and the forceful irrigations of aqueous solutions, may not only retard epithelial growth, but can easily destroy the little surface epithelium remaining, which is so desirable for defensive purposes.

Irrigations are also a potential agent of infection spread. Years ago it was a common practice to irrigate the aditus, using a curved canula. I have had, and have seen, many unfortunate sequelae develop from this practice.

In the American scheme of things, we are supposed to attain end results as quickly as possible, therefore, periodic progress rechecking becomes necessary. In this connection then, a conscientious medical treatment followed for a reasonable time without results prompts surgical interference.

If an *acute otitis media* discharges profusely for three weeks, it is a safe policy to operate. No such specific rule of time ever pertains in chronic otorrhea, here, too many variables can be present, for instance, correcting adjacent pathologic sites obviously will require time. However, if a few months of consistent careful treatment demonstrates no change in the aural state, and in the presence of a marked hearing loss, as stated above, surgical interference is to be thought of.

The question of continuing medical treatment

is sometimes determined by the nature of the patient in hand, since we must realize there are two types of practice, particularly in the larger cities, namely, the dispensary class and the private patient. This economic principle must be remembered. Time and the opportunity of following through consistently is most essential in the conduct of chronic otorrhea. In the dispensary type, this assurance is improbable, and a surgical judgment is sometimes advisable as contrasted to a non-surgical program in a different environment. By dispensary practice, of course, is meant the type of individual, whether he be in your office or in the dispensary.

If a cross section of the literature appearing in the last few years is carefully scrutinized it seems to present a more conservative trend in the surgical attitude. Modified radical interference apparently is the operation of choice; it being argued that a complete radical can always be done later if necessary. I feel this is good logic, providing, of course, that accurate diagnostic skill has been used. The correction of the essential error, pathologic, as well as environmental, other than the ear itself, has not only inhibited the number of cases, the virulence of a given case, the chances of spread, but has also given a better opportunity for modified radical surgery to be sufficient. I realize this statement may seem rather empirical, offering a splendid opportunity for criticism, however, results obtained warrant the opinion.

A discussion of the relative merits of each of the many types of operative interference is hardly within the province of this paper, however, suffice it to say that if surgical intervention is indicated, the technic should be sufficiently radical to thoroughly remove all pathologic sites so that subsequent epithelization will be possible over the operated field. Just whether this dictum means an ultra radical or a modified radical rests with the judgment of the operator. Permit me to state, though, that in my travels of late, substantiating the thought expressed elsewhere in this paper, I have rarely seen an ultra radical, except in the truly dispensary type of patient.

The Tobey revival of the old ossiculectomy has been recommended. I hardly feel warranted in discussing this suggestion, since my experience of twenty years ago was unsatisfactory with that method, and I have had no experience with the Tobey modification. In passing, permit me to say that I have seen Tobey operate and my conclusion was that the technic was more difficult than the usual radical and the insufficient field for observation did not offer the exact interpretation desired.

Extensive bone destruction, presence of cholesteatoma, oncoming neurological symptoms, sufficient to warrant a possible diagnosis of brain involvement, necessitates surgical intervention. When labyrinthine symptoms are marked, surgical *drainage* becomes rather desirable. I use the word surgical drainage advisedly, since there seems to be considerable doubt as to the safety of radical exenteration in this instance.

In the aged, and in the absence of definite symptoms of extension into dangerous areas, surgical intervention is contraindicated. Whether a latent extension is converted into an active process, or whether an extension is invited, through already lowered resistance of the parts, matters not, since statistics present a high mortality in this type of patient.

A frank polypoid degeneration showing in the aural canal, suggests surgical intervention. Here, however, the potential danger of latent labyrinthine involvement must be kept in mind, and the operator should have as clear a concept of the situation as is possible to secure. Should there be doubt in the preliminary study, radical surgery is more desirable than simple removal of polypi, particularly if the patient is in middle life.

On the other hand, many cases presenting aural polyps are of lower middle ear origin, and can be safely removed through the canal; the base curetted and cauterized with satisfactory results.

The abstract presence of a cholesteatomatous odor does not always mean that surgical intervention is necessary. I have had many such cases, seemingly cured medically, and the explanation probably is a small area only was involved, undoubtedly in the fundus or some pocket in the aditus which could be reached through the middle ear.

In conclusion it is well to consider chronic otorrhea as a question to which there can be several correct answers around which the variables equal the constants and the treatment of which

is directed as much to the relevant factors and the variables as to the ear itself.

Furthermore, we must assume, in the absence of proof to the contrary, that in a healed case stratified, as contrasted to ciliated epithelium, is present, which obviously increases the potential susceptibility to reinfection.

Medical Arts Building.

MILK SICKNESS*

WILLIAM E. WALSH, M. D.
MORRIS, ILLINOIS

It has been definitely proven that "Milk Sickness" is a disease that occurs in humans who drink the milk or eat the butter from apparently healthy cows during the time when they are eating white snake root.

Cattle that eat white snake root may get a disease that is called "Trembles" on account of the way in which they tremble, fall down convulsively and may die after taking exercise.

"Milk Sickness" or "Milk Sick" has been known to exist in America for one hundred and fifty years and has caused the deaths of hundreds of humans and tens of thousands of cattle. At the present time white snake root is distributed in many of the woodlands along the creek bottoms and rivers of all the eastern Mississippi valley, including Illinois, Indiana, Ohio, Kentucky, Tennessee, the southern part of Wisconsin. It grows in east Iowa, Missouri and Arkansas, in the north part of Mississippi, Alabama, Georgia, also in South and North Carolinas. In my opinion there are hundreds of cases of "Milk Sickness" every year in this large area and there are dozens of deaths which are recorded on the death certificates as diabetic coma, uremic coma or ptomaine poisoning.

Every State Board of Health in this area has been asked "How many deaths have been recorded from 'Milk Sickness' in the last ten years?" Not a single death recorded but newspapers reported three deaths in Illinois in 1925. In Grundy County there have been six deaths in thirty years, two in the last six months.

The trouble with "Milk Sickness" is it happens in out-of-the-way places along creeks and rivers where people object strongly to the diagnosis. The land owners give a history that there have been cases higher up and lower down the river but none here.

A diagnosis was made that a farm tenant had "Milk Sickness" and the landlord was indignant and belligerent. The husband of my last patient told me over the phone: "You will not need to come again; we have another Doctor." This was after I made a diagnosis of "Milk Sickness." The woman recovered but died in three weeks suddenly of "Milk Sickness." We had a post mortem.

Omitting the history of the disease and the histories of the investigations which have proven the above statements, we will confine ourselves to the description of a few cases with symptoms, pathology and treatment.

The following are typical cases:

Case 1. In 1902, three members of a family had loss of appetite, constipation, weakness and distress in the region of the stomach. One man apparently recovered, walked four miles. He became comatose that night and died the next day. His employer, a farmer, became extra busy with the funeral, he took sick with vomiting, constipation, nervousness, general weakness and pains, dying in three days. We had a post mortem, the first on record, complete with sections of all organs and inoculations of cultures, rabbits and guinea pigs by Dr. Sippy of Chicago. Tissues showed fatty degeneration, especially liver. No conclusions. We thought it must be an infection.

Case 2. In the city of Morris, Illinois, on November 25, 1908, at eight o'clock A. M. I was called to see a girl eight years old deeply comatose, pupils widely dilated, extremities cold, labored breathing, pulse 116, but fair quality, the temperature in the rectum 97. She was unable to swallow. The breath was strongly sweetish. I made a diagnosis of diabetic coma. The mother gave a history that the child did not pass much water and did not have a ravenous appetite and that two weeks before she had had loss of appetite, constipation, slight vomiting, weakness in the knees, pains in the legs, headache and prostration. She had been given free catharsis for biliousness and a Doctor was not called. The patient was better in four days and went to school and continued in school until the day before when she had taken a large dinner and had become heated while playing. She told her mother that it was hard to go up the stairs at school. When she came home at 4 P. M., she had to rest on the way. She went to bed and refused food, vomiting every hour until four o'clock in the morning when she went to sleep. At eight o'clock her mother tried to arouse her but could not.

She was catherized and no sugar found, but the urine gave a mahogany color with the addition of an aqueous solution of percholoride of iron, showing diacetic acid.

*Read before Illinois State Medical Meeting, Section on Medicine, May 20, 1930.

Other members of the family had been sick and especially the father had complained of weakness. He had the odor of acetone in his breath. "Milk Sickness" was then suspected. The butter they had been using came from a farmer in the "Milk Sick District" where white snake root was abundant. Patient died at 11 A. M. after an illness of eighteen hours.

At the post mortem assisted by Drs. Jordon and Harris the odor of acetone was very pronounced on opening the peritoneal cavity. Microscopically fatty degeneration of all the tissues was found. Two days after the death of the child the mother became extremely prostrated, with vomiting, distress in the stomach, pains in the back, constipation, headache, subnormal temperature and fast pulse. She had the diacetic acid and acetone of acidosis. Soda bicarbonate was given her in large doses. She was better in twelve hours. This is the first case of "Milk Sikness" treated on a rational basis.

This family in the city was poisoned by butter from the country. The family that supplied the butter had two members sick.

None of the cows that gave the milk were sick, but the white snake root was plentiful in the pasture and showed where it had been eaten by the cattle. Long before this the white snake root was suspected by pioneers.

This case report covers the whole field. It shows that butter may poison a town family. The cows may poison families to death and not show signs of illness. No wonder pioneer families by whom malaria and typhoid were accepted as a matter of course, fled back east in terror from this mysterious disease from which they died so suddenly. Their cattle and horses, apparently well, died after exercise and no one knew what it was.

Abraham Lincoln's mother died of it and they fled from it.

In the last twenty years it has been proven that richweed or white snake root was the offender by Crawford, Curtis, Mosely, Marsh, Wolf, Sackett, Couch and others. Couch of Washington, in 1929, separated from white snake root an oily liquid called tremetol that causes trembles in cattle and sheep.

Case 3. In 1921, a large woman, aged forty, was taken sick with all symptoms, sweetish breaths, acetone, constipation, deep breathing, distress in the region of the stomach. The white blood count was 7,000, diacetic acid and a trace of albumin in the urine, no sugar. With milk of magnesia and soda bicarbonate she recovered promptly. In two weeks she had a second attack similar to the first. In six weeks after her second attack, she had a third and more severe than the two first, becoming semicomatose. She was prostrated for a long time after recovering. We gave her soda by mouth and enemas of soda. Diet was Karo syrup, orange juice and skim milk.

Case 4. In 1925, a man of fifty years had four relapses in one year and two months. All attacks were typical, the odor of acetone was strongly detected in the room, diacetic acid in the urine, no sugar. Traces of albumin at times, pulse variable, white blood count low and blood sugar low.

On this case Dr. W. Henry Wilson made a liver function test. Liver function found one-third of normal. Glucose intravenously immediately relieved his weakness of legs and his exhaustion.

Blood sugar has been slightly low in three cases and normal in one.

In the three post mortems held by me the livers have all had extreme fatty degeneration and it was the only pathology that could show cause for death. While the cows are eating white snake root and giving milk they are becoming poisoned themselves and also poisoning those that drink the milk or eat the butter. This may be a slow process and neither the cows nor the people show any symptoms nor would they show any symptoms except vigorous exercise was taken. This might happen during the time that they were eating it. The cows after exercise will commence to tremble, fall down sometimes and die inside of a day and sometimes recover. The same way with people; it may be a month or longer after the poison was taken that the sudden severe sickness comes on after exercise or as in one case after the excitement of having a tooth pulled.

The symptoms are the same as diabetic acidosis. The important difference is that there is no sugar in the urine and the sudden onset without the history of thirst and hunger. The patients have had a large part of their liver substance destroyed by the snake root poison, first granular degeneration and then fatty. The liver has lost its power to store glycogen, the dextrose reserve, as its cells were found to be fatty in the three post mortems. This condition exists without any symptoms except being easily tired until some extra strain was put on the muscles or an extra amount of chemistry taking place. The dextrose has been used up by the muscles and no reserve in liver to burn the fat. The insulin is present to combine the hydro carbon (fat) with the carbohydrate sugar but the sugar is wanting. In diabetes the sugar and fat are present but the insulin is absent. In "Milk Sick-

ness" you have the fat and insulin but no sugar. Blood sugar tests were taken after dextrose had been given. Some day we will have one before.

Most of the fatal attacks of "Milk Sickness" take place long after the poison from the snake root has been destroyed or excreted. The disfunction of the liver lasts for at least two years, but I believe recovery takes place to a large extent.

In a family of five where one became seriously sick the urine in two of the remaining four had diacetic acid with no symptoms and two of them did not show any. The diacetic acid quickly disappeared under treatment.

In a family of seven where five became sick, the mother had no diacetic acid in the urine at the first visit but at the end of the week after heavy work and worry she showed diacetic acid and symptoms followed. In all cases where "Milk Sickness" is suspected an aqueous solution of ferric chloride should be left in the house with a test tube and some one should be instructed to test the urine of the family every night and morning even after all symptoms have subsided.

The treatment consists of neutralizing the diacetic acid in the blood stream and supplying dextrose. The first thing given in all cases is an enema of one ounce of soda bicarbonate with two ounces of Karo syrup, 85% glucose, to the pint of warm water, repeated every four hours. If it is a severe case we give dextrose by the vein and in the two cases that we have used it we gave fifty cc. of the fifty per cent. solution of dextrose U. S. P. every hour at the same time continuing with the soda and glucose by the bowel. By mouth, give one dram of soda bicarbonate and one of milk of magnesia in a glass of pop or water with one teaspoonful of Karo syrup every two hours, alternating with orange juice or skim milk. For nausea and vomiting every two hours we give a powder which contains cerium oxylate, bismuth subcarbonate and chalk until relieved, either with the soda or alternating with soda. If I were called to a patient who was semicomatose with "Milk Sickness" I would wash out the stomach with a solution of bicarbonate of soda and give one tablespoonful of bicarbonate of soda and two tablespoonfuls of glucose to a pint of water and leave it in the stomach. The patient is so dehydrated that they absorb a lot of water in the first twenty-four hours. Soda is kept up till urine is alkaline and I suppose it seems chemically wrong but I have had the reaction of diacetic acid in alkaline urine. Usually the pulse is a good quality, blood pressure is usually low, sometimes slightly high when comatose. The circulation compared with the rest of the body has always been good. We give all our medication with pop, it seems as though it is better retained. I am satisfied that ice cream is detrimental.

DEDUCTIONS AND CONCLUSIONS

That the poison that is absorbed from the milk and butter has a special affinity for the cells of the liver and that it must displace the glycogen in the liver or render the liver so it cannot store it. With the extreme acidosis the liver cells give up all their contents to the insulin and diacetic acid, fat is deposited in its place until the whole cell is pure fat.

When coma sets in the blood sugar must be almost nil, because no blood sugar test has been taken until after the treatment by glucose was started.

In one case the patient recovered, went out and became chilled. In a couple of days he developed a typical pneumonia. Glucose was given by the vein and he made a very prompt recovery. Could the diacetic acid in the blood and the glucose that was injected have helped to abort the pneumonia?

I feel that you must think it almost impossible that one individual in a small district like Grundy County could come in contact with thirty-eight cases in twenty-eight years and many more that were reported to me.

You gentleman can not realize what an extensive thing "Milk Sickness" is until you read its history where small settlements have been depopulated. In 1818, when Abraham Lincoln's mother died in Pigeon Creek, Illinois, that settlement was almost exterminated.

Hanson of Purdue University, Indiana, states that one-quarter of the early settlers in a section in Ohio died of "Milk Sickness" and in Dubois County, Indiana, in 1815 half of the human deaths were from "Milk Sickness."

DISCUSSION

Dr. W. H. Wilson, Joliet: It is a well recognized fact in medicine that one can make a diagnosis of diseases he knows, and not of those that he does not.

Many diseases have gone on unrecognized, as for example, undulant fever and tularemia. We know that they were diagnosed as something else until we developed a knowledge of the subject. I think that is true of milk sickness; the medical public is not milk sick minded and does not look for it. It is greatly to Dr. Walsh's credit that he has been alert enough to discover these cases.

It seems to me that the matter is first of all a public health problem, and that there should be some public health action taken. We still have this sickness prevalent throughout this section of the country. My familiarity with it has been fairly recent. Through Dr. Walsh I have seen some of his cases, and had the opportunity of studying one for a week or two for physiological pathology. His district is not different from any other in the central states and I think probably many cases go unrecognized. It should be a public health problem and should be cared for by some official body or bodies. I am rather inclined to think that it might be handled by the process of refusing milk from farms where this weed grows. If the farmer on whose farm the weed grows were excluded from the dairy market until his fields are cleared of the weed, he would benefit and the public would benefit. It is a question as to how much pathology it produces. The three autopsies all show albuminous degeneration of the principal organs. Functional disturbances were studied in one case between attacks. The urine is practically normal, output practically normal, although during an acute period the acetic acid and acetone were found. There may be some increased acidity in the urine. The blood sugar is subnormal. This patient had 70 to 75 mg. per 100 cc. whereas the average is 110. The sugar tolerance is normal. The urea in this case was a little high—82. Duodenal drainings of biliary tract showed no impairment of liver or gallbladder function. The blood sugar is low, and the blood sugar test would be of immediate value in making a diagnosis between diabetes and milk sickness. The liver's capacity for taking up levulose was greatly diminished.

Dr. Tom Kirkwood, Lawrenceville: This disease has been considered a curiosity, but when you go home ask the veterinary surgeon if cattle *in your vicinity* ever had trembles. In our country it is very prevalent. There are usually fifteen or twenty during the course of the summer. If this is so we are having milk sickness. It is my opinion that this condition has been occurring pretty regularly, and as Dr. Wilson said, it has been called diabetic coma, uremia, or something else. I have seen cases which I think were milk sickness, and I believe if we look into these cases with more care we will find many are overlooked.

Dr. S. E. Munson, Springfield: I would like to ask Dr. Walsh if there was not a paper read at the meeting of the State Society at Champaign, by one of the members of the Society, reporting several cases of milk sickness in both animals and human beings, in the vicinity where the Doctor was in practice, with grazing land infected by the snake root plant. This was called to the attention of the Department of Public Health at that time. About five years ago this Department inspected quite a bit of territory in Central Illinois where the plant was frequently found.

NEUROLOGICAL ASSOCIATIONS IN GENERAL PRACTICE*

LE ROY H. SLOAN, M. D.
CHICAGO

The purpose of this paper is to point out the close relationship between both functional and organic neurology and everyday disease as seen by the average busy practitioner whether he be in the large or small community. Most of us have been wont to thrust aside the study of nervous disease as too difficult or too abstruse. We have grown up on the idea that nothing can be done for nervous patients, so why worry about them. We have nurtured the misconception of the futility of treatment for these individuals and in so doing have made possible all sorts of fads, each with a measure of truth, most with nothing more and all outside the fold of medical practice. Yet we are daily coming in contact with conditions which are pure nervous manifestations. We are either passing them up or submerging their management to that of a minor physical complaint. With the scuttling of mild forms of insanity, obvious psychasthenia, and visible functional change into the gutter of neurasthenia, the management of these diseases and many more becomes almost impossible. It is only recently that there has been included in the history of a patient more than a cursory inquiry into his emotional life, his psychic sphere, his growth picture, his repressions, his desires, etc. This was left to the *Freudians* or non-medical psychoanalysts and was forbidden ground. An experience in a community of 45,000 a year or more ago impressed me with the strategic position which the family physician and general practitioner occupies in relation to these functional upsets. While a fairly large number of such states may be dependent upon previously undiscovered sex repressions, it is my belief that the *vast majority*, especially in the smaller community, is not founded in such remote dissatisfaction. More by far are dependent upon such factors as the fatigue incident to the care of four or five children of close ages or the worry

*Read before Illinois State Medical Meeting, Section on Medicine, May 20, 1930.

of a husband out of work for weeks, of wondering where the next meal is coming from or the clothes for another child, or the monotony of family duties without occasional diversion, or a loveless though not sexless marriage, or the inability to pour out a host of pent-up troubles for the lack of a sympathetic ear, or a feeling of inferiority and inadequacy built up by the general situation of the family for years, which inadequacy is cured not by medicine perhaps but by moving to another community. It seems obvious that the recognition of these functional states and their origin, and the common sense management of them by the family physician offers more than any other method against the development of lop-sided fadism. From just such factors as these spring many aches and pains, abdominal discomfort, headaches and the like. Inquiry along such lines by the family doctor may clear up a host of seemingly organic trouble.

Now, while we can but touch upon functional conditions, what about organic nervous disease and ordinary practice? What diseases met in daily practice have a neurologic association sufficiently close to warrant consideration. Let us mention but a *few*. Influenza is a common disease, never regarded as neurologic, and yet at times it bears so close a clinical relationship to encephalitis that it can scarcely be distinguished. We recognize the difference when the patient who has had "influenza" comes back with "nervous shakes," i. e., Parkinsonism, tremors of the face, or arm, or leg, or paralysis of an eye muscle or a depression state, or an out-and-out schizophrenia, or when a child after this supposed influenza goes off at a tangent so foreign to his previous makeup as to at times warrant the term insane. And so this "common cold" is strung up with any or all of the above and is becoming more and more a neurological condition. We rarely think of vaccination in the light of neurology, but recently the all too frequent myelitis and encephalitis due to or associated with vaccination, has caused renewed attention to the possibility of this unfortunate complication. Now what other diseases have such associations and what are their major manifestations? The number is legion. Diphtheria with its paralysis of the palate, and weakness of the legs, lead poisoning with the drop wrist, rheumatism with chorea of minor or major intent, Jamaica ginger and peripheral neuritis, alcohol and the same peripheral neuritis. Cardiospasm, pylorospasm, colitis, belching, gas on the stomach, constipation and vague pain all are so frequently knit to a purely nervous state as at times to suggest that the origin of these is in the nervous system entirely. Osteomyelitis, a surgical disease, followed by brain abscess; chronic bronchiectasis, a lung disease, followed by abscess of the brain; extraction of the teeth, a dental procedure, followed by abscess of the brain, diffuse meningitis and septicemia. And yet we rarely conceive of them as having any neurologic angle. One of the commonest diseases which may begin in a *strictly* neurologic way is pernicious anemia with tingling and numbness of the hands and feet, and a peculiar feeling limited to the so-called stocking and glove areas. This disease may *paralyze* before its true character is obvious unless we are looking out for it. Diabetes may show up as a typical neuritis and may closely simulate the picture of either arthritis or tabes.

Let us turn to vascular disease for a bit. We are all acquainted with venous thrombosis following typhoid, chronic infection, etc. We are accustomed to the abrupt rise in the fever, the septic character, the increase in the white count. We recognize the increased gravity of the situation as depending upon the nature of the infection. What similar picture do we see in the brain? Well, after a carbuncle, a series of boils or a chronic sinus infection, we may just as well get a venous thrombosis in the brain. It follows as in general venous thrombosis after a latent period of from 3 to 10 days. So that when a patient who has had some chronic infection begins to have cerebral symptoms, develops a paralysis of an eye muscle, mixes his words, perhaps shows a local paralysis of a limb, we visualize just such a picture as we would after typhoid except that we bear in mind its location in the brain and the ease with which spread to the pial meninges may occur. What of arterial disease? In general practice we see it of gravest import in the heart. We recognize the picture of coronary thrombosis or angina pectoris. We see the patient fall dead as if shot, or we see him incapacitated, slowly recovering, then relapsing again. What counterpart have we in the brain? Hemorrhage is probably the closest but remember that a patient who topples over dead all in

an instant does not die of a cerebral lesion; he dies of heart disease. Brain conditions may be matters of minutes, though usually of hours or days or months, but never of a second or two. Now if our patient has a valvular heart disease especially with a very marked irregularity and he suddenly becomes aphasic and then hemiplegic he has had an embolus, not a hemorrhage. He probably will not die. He will live. The smaller and farther his embolus goes, the faster he will get well. But if our patient wakes up in the morning paralyzed, he has had a thrombosis and one must look for arterio-sclerosis, diabetes, syphilis or hypotension. He won't die in an hour. He will live to get about, perhaps to mumble all the rest of his life, perhaps to have a gradually progressing hemiplegia, perhaps to clear up almost entirely. And so, you see in this picture one not far from thrombosis elsewhere in the body. As a summary we may say this. Vascular disease comes suddenly, most sudden in the heart, less so in the brain, much less rapidly elsewhere. A sudden lesion totally incapacitating the patient usually means heart or brain. Associated with aphasia or paralysis with nausea and vomiting, it is brain. With sudden death it is heart.

Another vascular insult which is daily taking on more significance is spontaneous subarachnoid hemorrhage. A young girl or boy previously well gets a severe brutal headache, vomits, sits or falls down, develops a stiff neck and stiff back with a positive Kernig. This boy has probably had a hemorrhage which is spreading over the brain down the spinal canal. Lumbar puncture clears up the diagnosis and relieves the patient. To be sure, further examination is needed to rule out the presence of a vascular tumor but for first purposes the diagnosis of a spontaneous hemorrhage is sufficient. Repeated puncture may be necessary. The older the patient the more apt are we to find him afflicted with recurrent and variable vascular disturbances in the brain. Drainage of a bladder blocked by a large prostate by the surgeon, careful use of cardiac regulators by the internist, attention to the concomitant diabetes. reduction in weight, may clear up the whole picture. And so we see how frequently every day disease presents its neurologic phase.

When we turn to the field of pain we may examine one or two types which have a very definite neurological association. First: Pain in the face. This may mean an infected tooth, simple neuralgia, a sinus infection, etc., but pain in one branch of the fifth nerve spreading to another branch at times, touched off at one particular spot above all others, is almost always trigeminal neuralgia and will require treatment as such. Second: Pain in the back. When this persists, runs down the legs which before long show weakness and changes in sensation, there is compression of the spinal cord. In the absence of tuberculosis it is so often due to metastasis from a breast tumor or prostatic carcinoma as to make imperative the x-raying of the spine and pelvis in every patient with persistent back pain. As a matter of fact, breast tumors and similar small carcinomata by metastasis produce so much back pain, leg pain, sciatica, neuritis, etc., as to present a major problem to be ruled out first rather than last. In contrast to this picture an entirely painless weakness of both legs with a little more spasticity than normal, with a Babinski and with little change in sensation makes us think at once of that steadily increasing disease, multiple sclerosis. If we find a nystagmus and absent abdominal reflexes we can be pretty certain. Ruling out this affection we may be dealing with spastic syphilitic paraplegia revealed by spinal puncture or pernicious anemia with its sore tongue and achylia gastrica or subacute combined degeneration.

A word or two on brain tumor will suffice. Headache may mean tumor or not. When associated with nausea and vomiting it is very probably tumor. When headache, nausea and vomiting are combined with a change in personality with alteration of habit, with loss of memory, with facial paralysis, or with epileptiform convulsions, we are most surely dealing with a tumor. Localization of these tumors is becoming daily more certain. Surgical treatment is curing a larger number each year and the accomplishments of such treatment running hand in hand with the skill and knowledge by the operator of neurology and neuropathology as well as of surgery. Excluding the acute traumatic brain we make bold to declare that surgery is best left to those with special training. On the other hand, this same headache seen for fifteen years, unassociated with further findings such as

choked disc or paralysis, means nothing of the sort. It is probably severe migraine.

Now a neurological discussion of course will include our intimate friend syphilis. These facts stand out in the mind of anyone seeing the syphilitic patients years after the initial lesion. First—many soft chancres are syphilitic—even a mucous erosion or mucous slit may be syphilitic. Dark field examination should be more commonly used. One or even six shots of salvarsan will not cure primary syphilis and the patient should be followed up or at least told to follow up his treatment for a matter of years not months. The Argyll-Robertson pupil still means syphilis until proven not to mean it and that is rarely. For the general practitioner this pupil and a change in knee jerks and ankle jerks with a history of some sort of a lesion still stands as of utmost importance in recognition of late syphilis. On the other hand a patient with a negative blood Wassermann and a negative spinal fluid Wassermann with a normal cell and gold curve from a dependable laboratory should not be subjected to antiluetic treatment without careful consideration of many other lesions which may produce his present picture. Mercury and iodides still remain of major importance in the treatment of later syphilis, just as salvarsan holds its place in primary and secondary lues and tryparsamide in pure nervous syphilis. Malaria and typhoid injections should be reserved for hospital use and by those acquainted with the manifest symptoms of nervous syphilis. Salvarsan has no place in the treatment of any kind of syphilis when the patient has syphilitic heart disease except in exceedingly small doses and after other medication. Syphilis may simulate any known disease from scarlet fever to intestinal obstruction. In the absence of laboratory findings a history with general adenopathy and changes in the pupils and reflexes remains of greatest help in the running down of a disease as prevalent amongst the rich as the poor, the strong and the weak, now as ever before.

DISCUSSION

Dr. Emil Z. Levitin, Peoria: I enjoyed Dr. LeRoy Sloan's paper. I consider that he has covered the ground from a neurological viewpoint in a definite and complete manner. I simply desire to mention during my allotted time a few points concerning certain psychiatric syndromes present during definite periods in an individual's life.

My impression is that the members of this specialty have convinced by suggestion in years gone by, the average practitioner, that he knows nothing about mental and nervous diseases, until the practitioner has fallen for that and turns the case over to the specialist without trying to treat it. He should, as a matter of fact, be very careful before turning a case over to a specialist. There are three periods of life which should interest the practitioner very much. One is the period of childhood, so thoroughly gone into at the conference in Washington this month. The practitioner comes in contact with the infant, with the pre-school child and with the adolescent, and he should be the one to recognize the changes in family environment and attempt to correct the child's behavior situation. Then the next phase of life, the menopause; the average practitioner has observed men—I say men knowingly—and women for a number of years in his routine practice, and he should notice the beginning of the signs of decay which come into the minds of individuals at that time. He should know that this is due to lack of something in the endocrine glands, and he should know how to treat these patients and not be so willing to transfer them to the neuro-psychiatrist. The third period is senility. We must learn that there are mental states that exist temporarily during the senile period, of an exhaustive nature, and the practitioner should recognize that certain changes in demeanor and behavior do not mean a senile psychosis, but frequently a temporarily exhaustive psychosis, which under proper care will improve and the individual resume his place in the community with complete recovery.

Dr. George W. Hall, Chicago: I have listened to the last two papers of the afternoon with a great deal of interest. Their contents convince me more and more that to be a specialist is sometimes a dangerous thing. Regarding Dr. Clendening, I wish to state that while I know he is a very successful internist I am inclined to believe that Fate has spoiled a splendid neurologist and psychiatrist, and it may not be too late for him to switch to that specialty yet.

In emphasizing some of the points brought out in these papers I would also like to stress the statement that the absence of clinical signs should not always lead one to the diagnosis of a neurosis. There are many symptoms of a neurosis in individuals who have underlying latent organic disturbances. When one is dealing with a simple neurosis, however, it usually means that that individual has many conflicts in his or her life and that he is unable to adapt himself to his surroundings and environment properly. Consequently he establishes a state of mind which is not in accordance with his normal self. It is true, as Dr. Clendening stated, that a good history will bring out in a very satisfactory manner the underlying facts which are the bases of neurosis.

As a rule the neurotic patient is very anxious to go over his complaints with you whereas if one has an

organic basis, which on the surface seemingly is functional in character, it is not so easily brought to the surface, whereas the neurotic individual will unravel his story in a very satisfactory manner without your having to quiz him closely. Fears or phobias are the basis of so many of the so-called functional disturbances, and it too often happens that the individual suffers from conflicts because of headache or backache or general weakness, whereas the main factor is the fear which possesses him, and not infrequently the fear is that he or she (the patient) may become insane. Dr. Sloan emphasizes one of the statements mentioned in his paper, and that is that some patients may not show the evidences of organic disease early in their history of complaints. Especially may that be true in young individuals who have been the subject of sleeping sickness and who have made an apparent recovery finally to develop a true Parkinsonism. The point I am endeavoring to bring out is that we as physicians cannot consider the patient's mind and body as separate entities. They are both in the same compartment and when one is mentally sick he is also physically sick and vice versa. In my opinion we physicians fail to improve the patient's condition because of the fact that we do not take his state of mind sufficiently into consideration at the time of examination. For instance, we may examine a patient who has a presystolic murmur but the heart is normal in size and none of the objective signs showing any particular danger from that standpoint, and yet if we tell the patient he has a mitral murmur we are very likely to make a prolonged invalid out of him. So many of us are afraid to take the responsibility to minimize our findings because we have the fear that if we don't tell the patient everything concerning his heart's action some other physician will and that we will be blamed for overlooking it. But after one has practiced medicine a number of years I think his judgment will suggest to him the advisability of not telling the patient too much especially if that patient is a highly neurotic individual. My belief is that we send a great many patients to the Science healer simply because we do not understand that patient's mental attitude sufficiently well.

THE CLINICAL AND ROENTGENOLOGIC VALUE OF THE LATERAL CHEST

C. H. WARFIELD, M. D.
Director, Department of Roentgenology, Cook County Hospital
CHICAGO

The lateral chest as an aid to diagnosis is not used as much as it should be because it is difficult to obtain uniformly satisfactory results. It is possible to develop uniform technic, both as regards position and exposure. The exposure that I use is 118 P. K. V.—50 M. A. ½ sec.—at 7 feet, for the average adult of 150 pounds. The position of the patient is a very important factor and is hard to describe. The patient stands with the affected side toward the plate, crossing the arms in front of him and grasping them just above the elbows places them on the flexed head and neck. He then holds tight to his head and raises his arms and head simultaneously until his body is in a vertical position. This position places the shoulders and scapula posterior. As deep a breath as possible is necessary to lessen the exposure. It is very important that the tube be placed seven feet or more from the plate, since the aorta, for instance, is about five inches from the film. The abscesses or foreign bodies located closer are filmed actual size. The percentage of distortion at a tube distance of 7 feet and object distance of 5 inches is 6.3. At 10 feet it is 4.3. This increase of three feet requires so much more exposure that I feel that it is not necessary, since the distortion of 2% is hardly recognized on the film. If the object is only one inch from the film, then at a tube distance of 7 feet there is 1.2% distortion.

A study of the distortion in roentgenograms is well written by Andrews and Warren[1] (1929), who describe their method and tabulate the percentages with varying object to film and target to film distances.

In the diagnosis of aneurysm I believe that the lateral view of the chest is of great importance. However, the left oblique technic recently described by O'Kane, Andrew and Warren[2] (1930) is of great value. In fact, in some cases, I prefer it to the lateral since there is a great variation in the position and direction of the large vessels. Nichols[3] (1927). The oblique view shows more of the descending aorta and right heart. The lateral view certainly has its place in the diagnosis of aortitis of the descending aorta.

For the large aneurysms it is not necessary to take either the oblique or lateral views since the upper half of the chest is obscured and no definite shadows can be determined. Its only value in these cases is to demonstrate erosion of the bodies of the vertebrae. In the early cases of aortitis, the aorta is not only dilated but bends sharply upon itself at the transverse portion.

In the arteriosclerotic aorta all three portions form a large horseshoe, the size of the loop de-

*Read before Section on Radiology, Illinois State Medical Meeting, Joliet, May 21, 1930.

pending on the tortuosity of the aorta. The lumen of the aorta is not changed. In a few cases I have failed to show any widening of the aorta except in the lateral chest, which finding has conformed to the clinical findings. The small sacular aneurysms are filmed in the position best seen by the fluoroscope. They may be entirely obscured or appear as a consolidation in the ordinary lateral or oblique views.

The heart presents an ovoid configuration with the long axis extending from above and downward and forward in the normal case. In the mitral lesion the oval configuration assumes a more globular shape as a result of the enlargement of the left side of the heart. In aortic regurgitation the posterior curve becomes more prominent. Brown & Weiss[4] (1927).

In the differential diagnosis of pericarditis with effusion and acute dilatation of the heart it is of great value. In pericarditis with effusion the retrocardiac space is obliterated while in acute dilatation of the heart it remains clear.

The lateral chest plays an important part in localization of foreign bodies and lung pathology. The fluoroscopic examination is first necessary to locate the site of pathology so that the affected side can be placed next to the film. The stereoscopic views of the chest are of no value to the surgeon when operating or to the internist on the ward since only a few of these men have had enough experience with the stereoscope for it to be of any value to them.

Obscure pathology in the base of either lung field is best studied in the lateral view. Consolidations of the lower lobe of the lung may show a smooth upper border, much like the diaphragm. Lesions behind the heart are practically always missed in the ordinary postero-anterior chest films. A few cases may have consolidation in the anterior or posterior costophrenic sinus and show no pathology in the postero-anterior chest film. Early collections of pleural fluid are always found in the posterior-phrenic sinus since it is the most dependent.

Foreign bodies, either in the lung tissue or the larger bronchi, can be definitely localized and their position in the bronchi determined.

The enlarged thymus should always be studied in the lateral position for displacement and compression of the trachea as well as all mediastinal tumors. In fact, cases of this type are not complete without the lateral view.

The lateral chest film is of value in many of the ordinary chest conditions, yet few roentgenologists resort to it because of the difficulty in securing uniform satisfactory results.

REFERENCES

1. Andrew, F. D., and Warren, S. L.: A study of the Distortion in roentgenograms taken at various target film distances. Am. J. Roentgenol. and Radium Therapy, 1929, XXII, 332-338.

2. O'Kane, G. H., Andrew, F. D., and Warren, S. L.: A Standardization Roentgenologic Study of the heart and great vessels in the Left Oblique. Am. J. Roentgenol. and Radium Therapy, 1930, XXIII—372-383.

3. Nichols, B. H.: Roentgenological study of the aorta. Radiology, 1927, IX, 136-147.

4. Brown, S., and Weiss, H. B.: Lateral Views of the Heart and Aorta. J. A. M. A., 1927, 88, 226-229.

DISCUSSION

Dr. P. R. Casellas, Chicago: Mr. Chairman and Gentlemen: I think the subject of lateral radiography of the chest is a very timely one, and I, personally, am very grateful to Dr. Warfield for having presented this paper.

For the past seven years I have been interested in the subject of lateral radiography, especially in children, and during that time I have collected forty-some cases of little patients giving symptoms of thymic enlargement, in which tumefaction of the mediastinal glands was demonstrated by means of lateral radiography where the usual procedure of the x-ray of the thymus had failed to give any light as to the pathologic process causing the symptomatology.

That brings to mind the words of Dr. Gerber as to the advisability of giving this patient x-ray therapy, because in my experience every one of these cases has yielded to x-ray radiation. I again refer to Dr. Gilbert's paper to emphasize how pleasing it is to see the roentgenologists going back to small dosage in the treatment of thymus in children.

Of course, lateral radiography of the chest will never substitute a fluoroscopic examination. I believe that a chest examination is not complete unless a very careful fluoroscopic examination is made, as we may gain information by the fluoroscope that cannot be reproduced on a film. Also, I do not think a chest examination of the child is complete unless a laterial view is taken.

Dr. O. W. Britt, Waterloo, Iowa: There is one condition that I wish Dr. Warfield had gone into a little more in detail and that is in regard to Lipiodol injections of the bronchial tree. The greatest number of bronchiectases that we found at Iowa City were located in the medial and posterior segments of the lower lobe.

One can imagine the difficulty of seeing the shadow in the posterior-anterior view if the film is the least bit light as the heart covers this area completely, whereas if you take the lateral projections these things come out

very clearly. Our surgeons were very grateful in many instances to have the lateral projections.

The stereoscopic views are of no value to the surgeon after he gets into the operating room, however, our surgeons at the University Hospital at Iowa City usually studied these cases thoroughly before going to the operating room by using the stereoscopic views and I am sure they received great benefit from the stereoscopic examination in the lateral projection.

Dr. C. H. Warfield, Chicago (closing): I have nothing to say except that I think that any work done on bronchiectasis with lipiodol is incomplete unless a lateral view of the chest is taken. The lateral chest should be a routine procedure in every case.

RULES FOR INDUSTRIAL SURGEONS

The following set of rules has been tentatively drawn up by the Industrial Relations Committee and the Ethics Committee of the Wayne County (Detroit) Medical Society. They are presented to the members for criticism and suggestions:

The Industrial Relations Committee in establishing the following sode realizes the futility of outlining in detail any definite set of rules to govern Industrial Surgeons.

All we can hope to do is to draw up a general working agreement, which will provide a better understanding between physicians having common interests in carrying on industrial work.

We contend that the Industrial Surgeons of Detroit are represented by men of the highest professional and ethical standing and we desire that this relationship be preserved and maintained.

We deplore the fact that misunderstandings at times occur. We also object to such a friendly relationship being jeopardized by insurance companies who cause doctors to "bid" for industrial work and "pit" one physician against his neighbor.

We suggest that the following rules be subscribed to by all physicians doing Industrial Surgery in Wayne County:

1. An Industrial Surgeon should consider his relations with the factory which he serves in the same manner as a physician called to attend a family in general practice.

2. He should in no way solicit business from or advertise himself to any industrial plant unless he positively knows that the plant in question is not being cared for by any other surgeon.

3. He should refuse appointment as surgeon by any industrial concern or insurance company concerned in the transaction until he is sure that the factory has no regular surgeon, that the surgeon has resigned, or has been officially discharged.

4. If necessary, he shall acquaint himself of the actual facts of the case by first calling upon the surgeon himself for a statement before entering into any negotiations whatever to take over new work.

5. He shall refuse to go in attendance to any factory which is regularly under the supervision of another doctor, except in emergency.

6. He shall under no conditions discuss rates or fees to any factory or insurance company, either in person or by letter, if this factory is being regularly cared for by another doctor.

7. Any infringement of these rules shall be construed as an unfriendly act and shall be referred to the Ethics Committee of the Wayne County Medical Society for decision.

8. The Industrial Surgeon should in every way possiple raise the standing of this branch of the profession by—

(a) Personally supervising as much as possible the care of patients at office and factory.

(b) Preserving a sufficiently high standard of fees paid by insurance companies to insure skillful and painstaking service.

(c) Fostering a relationship of mutual respect and trust, not only between the Industrial Surgeon and his employers, but an ethical relationship with other industrial surgeons.

THREE IOWA SOCIETIES TACKLE HEALTH CENTER PROBLEM

There is a growing sentiment among Iowa physicians that public and charitable health activities need more professional attention and direction. This feeling is shared by most lay health and social workers.

This proposal is based upon two fundamentally sound principles: First, that a safe and constructive lay health program can be defined and mapped out only with the sympathetic counsel and the direction of the medical profession as such. Second, that the success in practically every one of the lay health activities is based upon free services rendered by physicians; and that they therefore should determine the conditions under which such services are to be given, rather than to have them determined by the non-professional recipients of this free medical service.

Within the past sixty days three of the largest county medical societies have taken definite forward steps along these lines. The Scott County Medical Society in connection with a county contract for care of indigent sick has also made definite contractual provisions for operating the Davenport dispensary-clinic. This method and how the society is paid for its work is outlined elsewhere in this issue.

Woodbury and Polk counties are likewise coordinating health and charitable activities under proper leadership. In Sioux City a program similar to the one in Davenport has been undertaken, while in Polk County the movement consisted of the passing of the following resolution:

"That no member of the Polk County Medical Society shall contribute free professional services to any hospital, health center, clinic, or other health or welfare project, unless both the institution and its activities have been approved by the society."

The Woodbury County Medical Society seems to have found a solution of the clinic-dispensary problem

which has been an issue there during the past few months, through the adoption of a resolution which sets up an entirely new organization. It is to be a joint undertaking, but with the county medical society in its proper and rightful place, as is clearly indicated in the resolution adopted at a recent meeting of the society as follows:

"The Woodbury County Medical Society being assembled in regular session to consider means whereby we may aid in providing for the needs of our city and county in the matter of taking care of its indigent sick and injured as well as those of other towns, cities, states and countries who may temporarily be within our city and county, with the efficience and justice to all concerned, do hereby resolve that we will gladly cooperate with any Civic Organization that now exists or may hereafter be organized, which shall have for its object, and sole object, that of aiding and furthering the aforementioned activities also with the City Board of Health and County Board of Supervisors in carrying out these objects in the amalgamation of the foregoing bodies interested in contemplated charitable activities, it is understood and agreed that the same shall occur through a Board of Control, consisting of three (3) members selected by the Civic Organization, three (3) by the Woodbury County Medical Society, one (1) by the Board of Supervisors, one (1) by the Board of Health, and one (1) by the Board of Education of Sioux City, Iowa.

Said Board of Control shall have the management of said contemplated activities of said health center, with this restriction, however, that there shall be two (2) committees appointed. The first one as the committee on indigency and the second as that as health center management, which commitee shall be composed as follows, and have the following powers. Furthermore, that we as a society will annually establish a fee for the various types of work rendered by the profession to said health center, which shall be defrayed out of the funds collected from the Civic Organization or money received from the Board of Supervisors for cases properly falling within its jurisdiction and obligation.

"Furthermore, that all members of the Woodbury County Medical Society shall be entitled to have services in said health center prorogated as to time and occurring according to their election, but all shall receive the same compensation based upon 60 per cent of usual fee charged for like services in private practice. Furthermore, none shall be recommended to service unless the same is agreeable to them."

—Journal Iowa State Medical Society.

A WONDERFUL FAMILY

Having been told that it was electricity that made his mother's hair snap when she combed it, Johnny bragged to a visitor:

"We're a wonderful family, mother has electricity on her hair and grandma has gas on her stomach."

Society Proceedings

ADAMS COUNTY

The Annual All-Day Fall Clinical Conference of the Adams County Medical Society, held November 17, was preceded by a breakfast in honor of our distinguished guests, Doctors George W. Crile, Russell L. Haden and William V. Mullin, all of Cleveland. The breakfast was held at Hotel Quincy with twenty-one in attendance.

The scientific meeting was called to order at the Elk's Club about 9:15 A. M., by Dr. J. F. Ross, the president of the society. The following program was held during the morning:

The Salivary Glands—William V. Mullin, M. D., F. A. C. S.

Differentiation and Treatment of the Anemias—Russell L. Haden, M. A., M. D.

Clinical Analysis of 21,135 Operations on the Thyroid Gland with Special Relation to the End Results—George W. Crile, M. A., M. D., F. A. C. S.

There was recess from 12:00 until 2:00 P. M., and in the afternoon the following program was given:

Bronchial Asthma—William V. Mullin, M. D., F. A. C. S.

Types and Treatment of Rheumatism—Russell L. Haden, M. A., M. D.

The Nature and Treatment of Peptic Ulcer—George W. Crile, M. A., M. D., F. A. C. S.

The meeting adjourned to the Quincy Country Club for the evening session where a banquet was served to one hundred forty physicians and their wives. Following the banquet we were entertained by the Quincy High School orchestra of sixty-five pieces, under the direction of Mr. Paul E. Morrison. The evening scientific program was then given:

The Management of Chronic Diseases of the Nasal Sinuses in Relation to Their Effects Upon Systemic Disease—William V. Mullin, M. D., F. A. C. S.

Dental Infection and Systemic Disease—Russell L. Haden, M. A., M. D.

The Management of Patients Seriously Sick—George W. Criles, M. A., M. D., F. A. C. S.

The meeting adjourned about 10:00 P. M.

HAROLD SWANBERG, Secretary.

ALEXANDER COUNTY

The Alexander County Medical Society held its regular monthly meeting in the Halliday Hotel, Cairo, the evening of November 21 with twelve of the eighteen members present. Clinical cases for discussion were presented as follows:

Dr. J. S. Johnson, Cairo: "Massive Hypertrophy of Tonsils Associated with Pseudoleukemia."

Dr. R. E. Barrows, Cario: "Gastric Carcinoma in a Boy of Twenty-two."

Dr. O. T. Hudson, Mounds, Ill.: Appendiceal Abscess in a Child of Two Years."

Dr. Flint Bondurant, Cairo: "Malignant Tumor of Sigmoid Flexure.'

The paper of the evening was presented by Dr. Jas. S. Johnson, of Cairo, on the subject, "Toxic Eye Diseases," the discussion on which was opened by Dr. C. L. Weber, also of Cairo. The paper was further discussed by Drs. H. A. Davis and J. W. Dunn, Cairo. Both the paper and discussion were pointed and profitable.

It was decided by the society that the annual meeting for the election of officers for 1931 be held evening of December 16. This will be followed by a banquet. To both of these the secretary was instructed to invite, through Dr. J. S. Templeton, of Pinckneyville, Ill., councilor for this, the Tenth district, the committee appointed by the Council at its meeting in Chicago, September 3. After consideration of some minor local matters pertaining to the welfare of the society the meeting then adjourned.

JAS. W. DUNN, Secretary.

COOK COUNTY

CHICAGO SOCIETY OF INDUSTRIAL MEDICINE AND SURGERY

Meeting, November 5

Presentation of Interesting and Unusual Traumatic Cases.

Chest Injury and Lung Disease. James A. Britton. Discussion opened by Jerome R. Head.

CHICAGO ROENTGEN SOCIETY

Meeting, November 12

Bone Tumors. Henry Myerding, Rochester, Minn.

Fibro-Cystic Disease. Adolph Hartung.

Lesions of the Isthmus of the Lower Lumbar Vertebrae. F. A. Chandler.

Roentgen Changes in the Head of the Femur in Intracapsular Fractures. D. B. Femister.

CHICAGO MEDICAL SOCIETY

Meeting, November 19

Bleeding Peptic Ulcer. John B. Deaver, Philadelphia.

Marriages

FRED O. E. EGGERT, Chicago, to Miss Helen Jane Duncan of Appleton, Wis., September 10.

LUCIUS LESTER HUTCHENS to Miss Nedra Johnson, both of Flora, Ill., October 17.

Personals

Dr. Hugh A. McGuigan, Chicago, addressed the Will-Grundy County Medical Society, November 12, on "Digitalis Therapy."

Dr. Harry J. Corper, Denver, addressed the Chicago Tuberculosis Society, November 13, on "The Tubercle Bacillus—Experimental Studies."

The Rock Island County Medical Society was addressed, November 11, by Dr. George de Tarnowsky, Chicago, on "Surgical Management of Carcinoma of the Colon."

Dr. Stanley S. Burns, St. Louis, addressed the Williamson County Medical Society at Marion, November 18, on "Diagnosis and the Importance of Focal Infection in the Nose and Throat."

Dr. Abraham Myerson, Boston, addressed the Illinois Society for Mental Hygiene, November 25, on "Inheritance and Environment: Their Effect on Personality."

Among others, Dr. Arthur Weil addressed the Chicago Pathological Society, November 10, on "Silver Impregnation of Gliomas with Davenport's Method."

Dr. Aldred Scott Warthin, Ann Arbor, Mich., delivered the eleventh annual Pastuer lecture before the Institute of Medicine of Chicago, November 21, on "Problems in Latent Syphilis."

"Syphilis of the Nervous System" was the subject of Dr. H. Douglas Singer, Chicago, November 19, before the Will-Grundy County Medical Society.

Dr. Herman L. Kretschmer delivered the Mayo Foundation lecture on neurology at Rochester, Minn., November 3, on "Diseases of the Urinary Tract in Infancy and Childhood."

Dr. Charles Spencer Williamson, Chicago, discussed "Research Work Along the Lines of Anemia, Especially Nutritional Anemias and Pericarditis" before the Will-Grundy County Medical Society, Joliet, November 5.

The fifteenth annual meeting of the Institute of Medicine of Chicago will be addressed, December 2, by Dr. George E. Shambaugh on "The Problem of Deafness," and Dr. George Burgess Magrath, Boston, "Some Personal Experiences as a Medical Examiner."

The Quincy Physicians' Club was addressed, November 3, by Dr. Melinda C. K. Germann on "The Progress of Pediatrics"; November 17, by Dr. Clarence A. Wells on "Progress of Anesthesia."

Madame N. Dobrovolskaya-Zavadskaya of the Curie Institute, Paris, France, lectured at Northwestern University Medical School, November 24-25, on "Some Important Notions from Radiology" and "About the Heredity of Cancer."

The Chicago Roentgen Society was addressed, November 12, by Drs. Henry W. Meyerding, Rochester, Minn., on "Bone Tumors"; Adolph Hartung, "Fibrocystic Disease"; Fremont T. A. Chandler, "Lesions of the Isthmus of the Lower

Lumbar Vertebra," and Dallas B. Phemister, "Roentgen Changes in the Head of the Femur in Intracapsular Fractures."

Dr. R. W. Dunham has purchased the Illinois Valley Hospital and Ottawa Tuberculosis Sanatorium, Ottawa, Illinois.

Dr. Max Thorek presented a paper on "Possibilities of Reconstruction of the Human Form" before the Academy of Medicine, Milwaukee, November 11.

News Notes

—The annual study class of the Chicago Heart Association held its first meeting, November 10; it will continue each succeeding Monday, including December 8; the subjects will include "The Child Heart," "The Heart Beyond the Midpoint of Life" and "Care and Treatment of Cardiacs."

—A joint meeting of the Chicago Council of Medical Women and the Chicago Medical Society was addressed, October 29, by Dr. Mabel E. Gardner, Cincinnati, on "Multiple Small Peritoneal Cysts of the Fallopian Tubes," illustrated, and Susan R. Offutt, Rochester, Minn., "Chronic Cervicitis (Office Treatment)."

—The state department of public welfare and the College of Medicine of the University of Illinois dedicated four buildings, October 29. These buildings, the State Orthopedic Institute, the Institute for Juvenile Research, the Nurses' Home and the Research and Educational Hospital Service Building, are units of the Research and Educational Hospital operated by the University of Illinois. Addresses were given by Governor Emmerson, Harry Woodburn Chase, LL.D., president of the University of Illinois, and Rodney H. Brandon, director of the department of public welfare. After the dedication of these buildings, officials of the University of Illinois laid the cornerstone of their new $1,500,000 Medical and Dental Laboratory Building, at Polk and Lincoln streets. These laboratories are designed to accommodate 200 students in a class. The Research and Educational Hospital has a capacity of 450 beds.

—Dr. Andy Hall, state health director, has announced that five state-wide medical and health organizations have formed an agreement to carry out a vigorous anticancer campaign over the state. The cooperating organizations are the Illinois Department of Public Health, the educational committee of the Illinois State Medical Society, the Educational Association on Cancer, the Illinois branch of the American Society for the Control of Cancer, and the University of Illinois College of Medicine. Special emphasis will be made in an educational drive to halt the increase of cancer on visible parts of the body. The program will include the publication of an illustrated booklet for free distribution throughout the state and for the building of a mobile exhibit made up of wax models, actual specimens, pictures and charts which show cancer of accessible parts of the body, in all of its recognized stages and forms, and a cancer week program.

—The Southern Illinois Medical Association held its fifty-sixth annual meeting in Mascoutah, November 6-7. The program included papers by Drs. John Niess, Jr., Carmi, on "Effects of Tonsillectomy on the General Health"; Quitman U. Newell, St. Louis, "Remarks on Treatment of Sterility in the Female"; Clyde E. Purcell, Paducah, Ky., "Foreign Bodies in the Respiratory and Food Passages"; William D. Chapman, Silvis, "Medical Organization and Practice"; William H. Evans, Murphysboro, "The Family Physician and the Ex-Service Man." The Canti and Lewis cancer films and Dr. DeLee's three reel film on "The Toxemias of Pregnancy" were shown. Officers elected were president, Dr. Charles W. Hall, Mount Vernon; vice president, John E. Reed, Benton, and Charles S. Skaggs, East St. Louis, and secretary, William J. Benner, Anna. The next annual meeting will be held in Olney.

—The department of medicine of the University of Chicago, in the pursuance of studies of pneumonia, has set aside beds in the Albert Merritt Billings Hospital for the admission, free of charge, of patients whose financial circumstances warrant such consideration. The Lasker Foundation and the department of medicine of the university, which has undertaken a long term of clinical study of hypertension, have arranged for the admittance, free of charge, of cases to the Max Epstein Clinic. The type of patients desired are those less than 40 years of age with high blood pressure and without other symptoms, and patients less than 40 years of age with high blood pressure and other indications of

chronic Bright's disease. Such patients will be admitted as ambulatory and will be hospitalized only if necessary. Patients with a fair prospect of being available over a period of years will be given preference.

—Dr. A. S. Burdick, who has been, officially, Editor-in-Chief of *Clinical Medicine* and *Surgery* for a long time, has given up that title, and the Managing Editor, Dr. George B. Lake, who has conducted that journal for the past six years, becomes, officially, its Editor, Dr. Burdick retaining the leading position on its general editorial staff.

—Each Tuesday at 2:35 P. M. the University of Illinois College of Medicine broadcasts talks on medical subjects over Station WLS, the Prairie Farmer Station, in Chicago. Following is the program:

September 30—Medical Outlook for 1930, Dean Davis J. Davis.

October 7—The Research and Educational Hospital, Major M. H. Worthington.

October 14—The Care of the Eyes, Dr. Hallard Beard.

October 21—Tularaemia, Dr. Lloyd Arnold.

October 28—Silicosis or Dusty Lungs, Dr. S. C. Beach.

November 4—The Disinfecting Power of the Skin, Dr. Lloyd Arnold.

November 11—Lead Poisoning, Dr. S. C. Beach.

November 18—Undulant Fever, Dr. Lloyd Arnold.

November 25—Chrome Plating or Dangerous Auto Beautification, Dr. S. C. Beach.

December 2—The Medical Library of the University of Illinois College of Medicine, Miss Metta M. Loomis.

December 9—Carbon Monoxide or Automobile Gas Poisoning, Dr. S. C. Beach.

—At the Bi-weekly meeting of the Medical History Club, University of Illinois College of Medicine, on November 5, Dr. Julius H. Hess, Professor of Pediatrics, gave his impressions of "Russia as I Saw It." Dr. Hess discussed both the economic and medical situations.

—The Staff of the Research and Educational Hospital, University of Illinois, holds a clinical conference on the first and Third Thursdays of each month at 1:00 P. M. in the Dispensary clinic room, to which the profession is invited.

At the conference on November 6, the following cases were shown and discussed:

Carcinoma of the Nose. Carcinoma of Ear and Stomach with Metastases Sarcoma, Dr. F. L. Lederer.

Three Cases of Trichinosis, Dr. C. L. Birch.

A Case of Scurvy, Dr. C. S. Williamson.

Primary Carcinoma of Liver with Thrombosis of Portal Vein, Dr. George Milles.

—At the bi-weekly meeting of the Medical Research Club of the University of Illinois College of Medicine, November 12, 1930, Dr. Gerhardt von Bonin presented a paper on "The Skulls of the Easter Islanders"; and Dr. W. C. Austin and Messrs. C. J. Smalley and M. I. Sankstone presented a paper on "Changes of l-Arabinose and d-Xylose Under the Influence of Dilute Alkali."

—The two assemblies at Peoria Central High School were addressed November 12 by Dr. Frederick Meixner, who spoke on, "Childhood Tuberculosis" as a preliminary program to the establishment of a diagnostic clinic in the Peoria Public Schools.

Other high schools were addressed by Dr. Sumner Miller and Dr. Pollock of the Municipal Tuberculosis Sanatarium.

The Chicago Medical School announces the appointment of the following:

John Ralph Ballinger, Professor of Neurology.

Warren Johnson, Professor of Surgery.

James M. Moran, Professor of Clinical Medicine.

Albert Frank Rosenblum, Professor of Anatomy.

Norris F. Ruddick, Professor of Urology.

Charles R. Wiley, Professor of Medicine.

Frederick Max Nicholson, Associate Professor of Surgery.

Robert Dane Barnard, Associate Professor of Physiology.

Loran H. Dill, Associate Professor of Obstetrics.

Alfred H. Hallmann, Associate Professor of Medicine.

Frank J. Smejkal, Associate Professor of Medicine.

—The Central Society for Clinical Research held its third annual meeting at the Research and Educational Hospital of the College of Medicine, University of Illinois, 1817 Polk

Street, on November 21. About two hundred members attended the meeting.

The officers elected for the ensuing year are: President, Dr. Louis Leiter, and Secretary, Dr. Lawrence D. Thompson.

Deaths

ROBERT GUSTAV BOEHM, Chicago; Loyola University School of Medicine, Chicago, 1916; aged 38; was killed, October 22, when the automobile in which he was driving was struck by a street car.

LESTER CURTIS, Chicago; Northwestern University Medical School, Chicago, 1870; a former member of Cook County and Mercy Hospital staffs and president American Microscopical Society; aged 88; died, November 23, of cerebral embolism and organic heart disease.

THOMAS FRANKLIN DORNBLASER, Amboy, Ill.; Medical Department of the University of Illinois, Chicago, 1908; a Fellow, A. M. A.; veteran of the Spanish-American War; formerly member of the school board; one of the medical directors of the Amboy Public Hospital; aged 51; died, September 28, of heart disease.

RALPH PARKER DOWD, Fisher, Ill.; Medical College of Ohio, Cincinnati, 1893; a Fellow, A. M. A.; aged 64; died, September 29, of areteriosclerosis.

HORACE WILLIAM ELDER, Bloomington, Ill.; Barnes Medical College, St. Louis, 1893; aged 71; died, October 24.

EDGAR J. GEORGE, Chicago; Chicago Homeopathic Medical College, 1890; Hahnemann Medical College and Hospital, Chicago, 1905; formerly professor of ophthalmology, Hahnemann Medical College and Hospital; member of the American College of Surgeons; aged 67; on the staff of the Chicago Memorial Hospital, where he died, October 21, of coronary thrombosis.

HENRY LOGAN GILES, Chicago; University Medical College of Kansas City, Mo., 1896; aged 57; died, July 24, of arteriosclerosis.

JUNIUS CLARKSON HOAG, Chicago; Chicago Medical College, 1882; member of the Illinois State Medical Society; member of the American College of Surgeons; at one time instructor and demonstrator of obstetrics at his alma mater; past president, vice president and secretary of the Chicago Medical Society; on the staffs of St. Luke's Hospital, Mercy Hospital and the Provident Hospital; aged 72; died, October 25, of carcinoma of the ascending colon.

ALLEN MASON KING, Jacksonville, Ill.; Barnes Medical College, St. Louis, 1902; member of the Illinois State Medical Society; served during the World War; aged 54; on the staff of the Passavant Memorial Hospital, where he died, September 21, of pneumonia.

PETER J. KOERPER, Wilmette, Ill.; Rush Medical College, Chicago, 1903; Spanish-American War veteran; aged 52; died, September 14, of cirrhosis of the liver and chronic nephritis.

GUY EDWARD KROLICK, Chicago; Chicago College of Medicine and Surgery, 1913; served during the World War; aged 41; died, November 9, of heart disease.

EDWARD FRANKLIN LEONARD, Chicago; Harvey Medical College, Chicago, 1902; a Fellow, A. M. A.; College of Physicians and Surgeons, Chicago, 1903; member of the American College of Physicians; formerly assistant professor of neurology, University of Illinois College of Medicine; on the staff of the Grant Hospital; aged 58; died, October 31, of heart disease.

ERNEST LEWIS MCEWEN, Chicago; Rush Medical College, Chicago, 1897; a Fellow, A. M. A.; associate clinical professor of dermatology at his alma mater; member of the American Dermatological Association; on the staffs of St. Francis Hospital, Evanston, Home for Destitute Crippled Children and the Presbyterian Hospital, Chicago; aged 63; died, October 30, of heart disease.

ELBRIDGE ALBERT MCINTYRE, Chicago; University of Illinois College of Medicine, Chicago, 1927; aged 28; was found dead, November 7, in Mendota, Ill., of a gunshot wound.

GEORGE F. MEAD, Pinckneyville, Ill.; St. Louis College of Physicians and Surgeons, 1892; member of the Illinois State Medical Society; aged 66; died, October 1, of heart disease.

ELIZA ROXANA MORSE, Chicago; Northwestern Univesity Woman's Medical School, 1888; former Fellow, A. M. A.; aged 80; died, November 14, of myocarditis and hypertension.

CHARLES EVART PADDOCK, Chicago; Chicago Medical College, 1891; a Fellow, A. M. A.; formerly assistant professor of obstetrics, Rush Medical College, and professor of obstetrics, American Medical Missionary College; member of the American College of Surgeons; aged 71; on the staff of St. Luke's Hospital, where he died, November 1, of heart disease.

ARTHUR E. PRINCE, Springfield, Ill.; Medical Department of the University of the City of New York, 1877; a Fellow, A. M. A.; medical superintendent of the David Prince Sanitarium; aged 76; died, October 21, of pulmonary carcinoma and acute parenchymatous nephritis.

JESSE PICKRELL SIMPSON, Palmer, Ill.; Missouri Medical College, St. Louis, 1899; a Fellow, A. M. A.; served during the World War; member of the school board; aged 61; died, October 21, of carcinoma of the liver.

STEWART LUTHY SMITH, Pittsfield, Ill.; Rush Medical College, 1919; was found dead in his office, October 21, from gunshot wound said to have been accidental.

GARRETT VAN ZANDT, Chicago; Rush Medical College, Chicago, 1883; aged 73; died, October 24, of carcinoma of the lower lip and myocarditis.

JOSEPH THOMAS WOOF, Chicago; Jenner Medical College, Chicago, 1906; aged 57; died, October 24, of coronary thrombosis and arteriosclerosis.

1930

llege
the
heart

Med-
Col-
hem-
herly
inois
Hos-

dical
ciate
ater;
tion;
Iome
erian
heart

y of
28;
of a

Col-
the
Octo-

Uni-
low,
ditis

Medi-
erly
ege,
Mis-
e of
Hos-
e.
De-
ork,
t of
ober
tous

ouri
A.;
hool
the

Med-
Oc-
cci-

Col-
of

ical
of